

A photograph of industrial machinery, likely a water treatment plant, featuring numerous blue valves and stainless steel pipes. The scene is brightly lit, showing the intricate details of the equipment.

MATRIX

Process Solutions

**PUMPS
VALVES
FITTINGS
FILTRATION
ONSITE SERVICE
TANK EQUIPMENT
INSTRUMENTATION
HEAT EXCHANGERS
PROCESS DESIGN SERVICES**

PRODUCT CATALOGUE

5th Edition

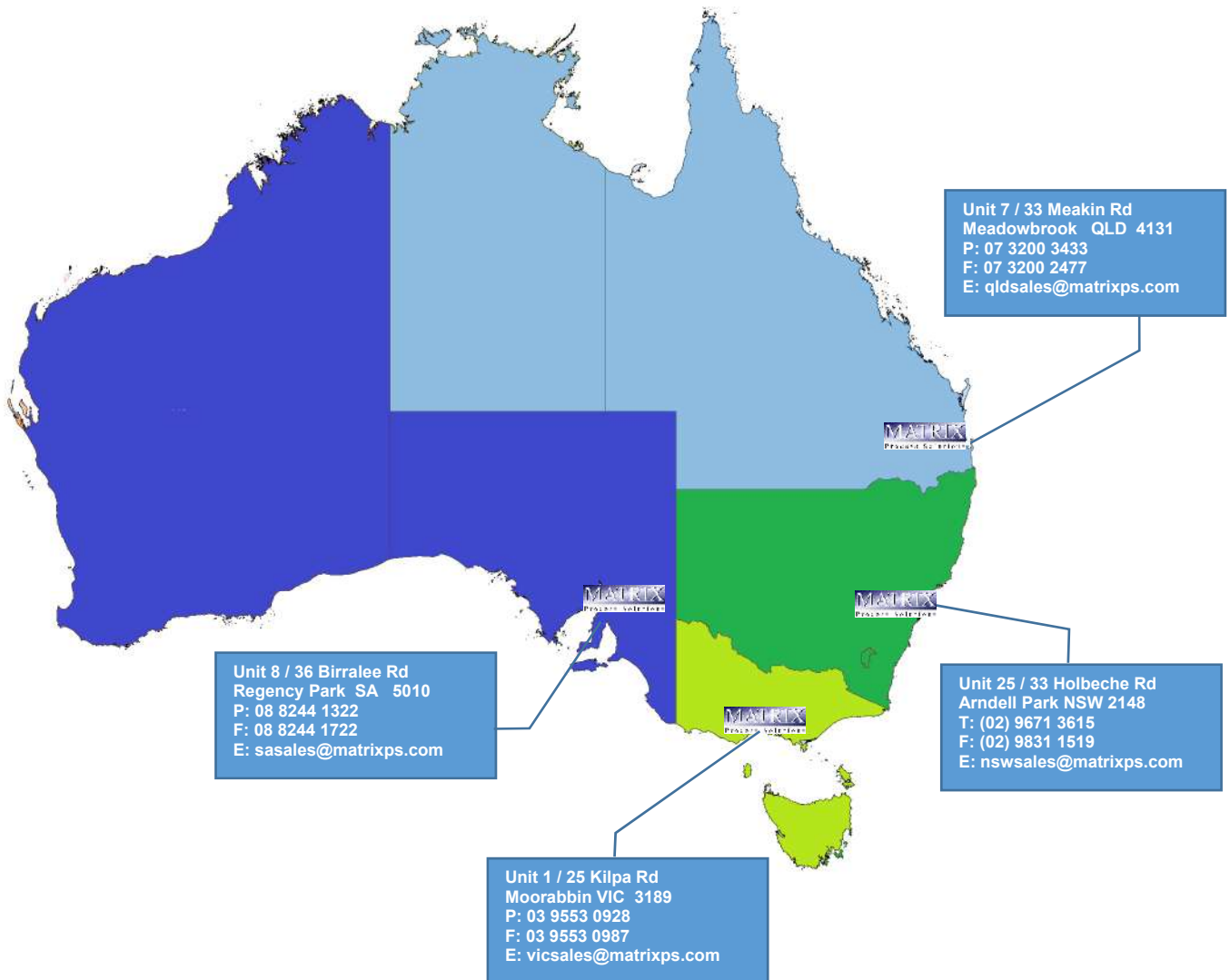
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This combined knowledge and dedication makes us the ideal partner for any organisation seeking a support partner for all of their process equipment needs.

Matrix is the master distributor for Alfa Laval in Australia and thus we stock an unparalleled product range, technical support and onsite service. This combined with our commitment to improving process technology through intelligent design and implementation ensures that Matrix is your perfect business partner.

With offices in four major locations; Adelaide, Brisbane, Melbourne and Sydney Matrix can guarantee nationwide coverage and fast supply of all your critical process needs.

**24 hours, 7 days...
you can rely on us to serve you best.**



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INDEX

| | <u>Page</u> | | <u>Page</u> |
|---------------------------------|-------------|-------------------------------|-------------|
| Air Blow Valves | | Heat Exchangers | |
| LKBV | 35 | Brazed PHE | 55 |
| LKUV-1 | 35 | Gasketed PHE | 55 |
| | | Scraped Surface HX | 56 |
| Bends | | Tubular HX | 56 |
| 90 Degree | 5 | Point of use HX | 56 |
| 45 Degree | 5 | | |
| 180 Degree | 5 | Indication Units | |
| 90 Degree Long Radius | 5 | Thinktops | 25 |
| | | INDI Tops | 26 |
| BSP Fittings | 9 | Lateral sensors | 26 |
| | | Positioner control | 26 |
| Ball Valves | | | |
| Butt Weld | 32 | Instrumentation | |
| BSP 1 Piece | 32 | Instrument Body fitting | 37 |
| BSP 2 Piece | 32 | Level Switch | 37 |
| BSP 3 Piece | 32 | Level Transmitter | 37 |
| Sanitary Ball Valves | 32 | Potentiometric level trans. | 37 |
| | | Conductivity Meter | 37 |
| Butterfly Valves | | Temp Transmitter | 37 |
| LKB | 15 | Thermometer Dial face | 37 |
| LKB-F | 15 | Pressure transmitter | 37 |
| LKB Handles | 15 | Pressure Gauges | 37 |
| LKLA Actuators | 16 | Rotacheck | 37 |
| LKLA-T Actuators | 16 | Load Cell | 37 |
| Mounting Brackets | 15 | | |
| Unique Control Actuators | 15 | Manways | 49 |
| Wafer & Lugged | 33 | | |
| | | Miscellaneous Fittings | |
| Carlsberg Flask | | Domed end caps | 4 |
| Keofitt | 43 | Hose Tails butt weld | 4 |
| Scandibrew | 33 | Reducing Liners | 4 |
| | | | |
| Cleaning Equipment | | Miscellaneous Tools | |
| LKRK static spray balls | 45 | Tube Cutting blocks | 11 |
| Toftejorg Cleaning Heads | 45-46 | BSM Hex Spanners | 4 |
| | | Round Nut Spanners | 4 |
| Compression Fittings | 10 | | |
| | | Mixproof Valves | |
| Constant Pressure Valves | | SMP-BC | 23 |
| CPM-I | 22 | Unique | 24 |
| CPM-O | 22 | | |
| CPMI-D60 | 22 | Non Return Valves | |
| Scandibrew CO2 valve | 22 | LKC-2 | 17 |
| | | BSP | 33 |
| Diaphragm Valves | | Spring Free (Ygros) | 17 |
| Full Flow | 33 | Scandibrew CO2 valve | 22 |
| | | | |
| Dry Hops Addition System | | Piston Valves | |
| DH45, DH,90, DH250 | 64 | Unique SSV | 19 |
| | | Unique SSV Aseptic | 19 |
| Expansion Joint | 31 | Unique SSV Manual | 19 |
| | | Unique SSV Regulating | 21 |
| FLANGES | 13 | Unique SSSV | 20 |
| | | LKAP | 20 |
| Float Valves (LKSV) | 35 | Scandibrew Mini valve | 20 |
| | | | |
| Flow Meters | | Pipetite | 6 |
| Process Data | 38 | | |

INDEX
Page

| | Page | | Page |
|--------------------------------|-----------|--------------------------------|-------|
| MCD PHE Gaskets | 57-58 | Strainers | |
| Product Recovery | 30 | LKIF | 33 |
| Pumps | | LKVF - coarse | 33 |
| LKH centrifugal | 59 | LKSF - Slot strainer | 33 |
| MR Liquid ring | 60 | Y Type - coarse | 33 |
| GM centrifugal | 59 | T Type - coarse | 33 |
| Rotary Lobe SSP | 61-62 | BSP Y Type | 33 |
| Rotary Lobe AMPCO | 63 | Inline Strainer | 34 |
| Murzan AOD pump | 65 | Tank Mixing Equipment | |
| Murzan Systems | 65-66 | Agitators | 51 |
| Trolley Pumps | | ISO Mix | 52 |
| Wine Pump Over | 63 | Magnetic Mixers | 52 |
| FM-OS Centrifugal pump | 59 | Inline Mixing Equipment | |
| LKH Prime | 60 | AL Hybrid powder mixer | 53 |
| Twin Screw Pump | 63 | Static Inline Mixers | 53 |
| Reducers | | Powder Induction blender | 54 |
| Concentric Reducers | 7 | Tank Outlet Valves | |
| Eccentric Reducers | 7 | Unique SSV Tank Outlet | 19 |
| Regulating Valves | | Unique-TO | 24 |
| Unique RV-ST | 21 | Tees | |
| Unique RV-P | 21 | Equal | 8 |
| Scandibrew CO2 valve | 22 | Y' Tees | 8 |
| SB tank press. reg. | 36 | Pulled Tee's | 8 |
| Rotary Swing Joints | 2 | Reducing Tee's | 8 |
| Safety Valves | | Swept Tee's | 8 |
| Definox Pres / Vac Valve | 18 | Crosses | 8 |
| Pressure Relief Valves | 18 | Tube | |
| Zorzini vent valves | 18 | 316 s/s 16#. (1528) | 11 |
| Scandibrew Combined | 36 | 304 s/s 16#. (1528) | 11 |
| Scandibrew Top Plate | 36 | Square section | 11 |
| Sample Valves | | Insulated | 14 |
| Keofitt | 39 | Tube Clamps | |
| Matrix Service Division | 69-70 | Plain | 5 |
| Matrix Projects | 71-72 | Bossed | 5 |
| Matrix Customised | 73-74 | Long Tang | 5 |
| Shear Pump | 54 | Saddle | 5 |
| SHUTTER VALVES | | EzyStrut System | 5 |
| LIAG Shutter Valve | 27-29, 31 | Union Components | |
| Koltec (MH) Shutter Valve | 32 | BSM Union Parts | 1 |
| Sight Glasses | | CIP Union Parts - Flat faced | 1 |
| Tank style | 48 | NZ Union Parts | 3 |
| In-line | 47-48 | IDF Unions | 3 |
| Polysight | 47 | DIN Unions | 3 |
| Max Muller lights | 48 | Clamp Unions | 2 |
| | | Tri-Clover Gaskets | 2 |
| | | Wine Unions | 3 |
| | | PHU Union Parts | 4 |
| | | SMS Unions | 3 |
| | | Technical Information | |
| | | Cleaning Head quick select. | 44 |
| | | Chemical Compatability | 76-77 |

AVAILABLE PUBLICATIONS



Alfa Laval Complete Product Catalogue (Electronic only)



Alfa Laval Complete Spare Parts (Electronic only)



Alfa Laval Pump Handbook (Electronic only)



Keofitt Product Catalogue (Electronic only)



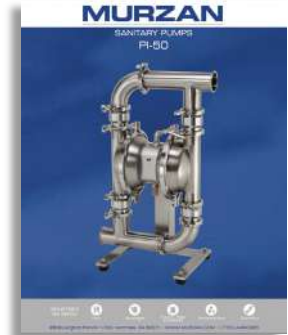
MCD PHE Gasket Product Catalogue (Electronic only)



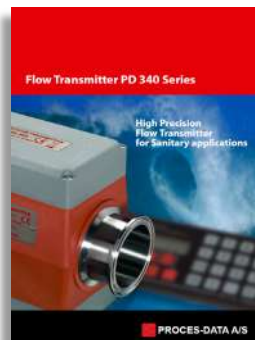
LIAG Product Catalogue



SSP PUMPS Catalogue



MURZAN Pumps Catalogue



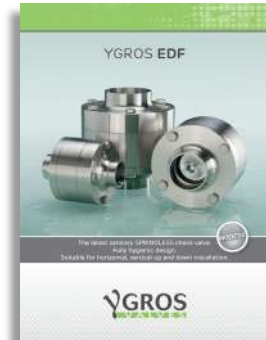
Process Data Catalogue



Process Data Catalogue



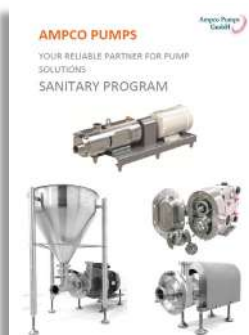
Max Muller Catalogue



YGROS Catalogue



Ampco Shear Blenders Catalogue



Ampco Catalogue



Alfa Laval HERE magazine

Contact your nearest Matrix office for a printed or a electronic copy of any catalogues viewed above.





Premium goes Prime

Introducing the new standard in self-priming pump technology: the Alfa Laval LKH Prime

The premium Alfa Laval LKH range of centrifugal pumps just gained a new family member, the Alfa Laval LKH Prime. This energy efficient, self-priming pump uses a combination of air-screw technology and advanced design to meet the most stringent requirements of a variety of industries, from food to pharmaceuticals. Designed specifically for Cleaning-in-Place duties, this versatile, reliable prime-performing pump delivers low cost of ownership and increased uptime.

It's time to go Prime.



Alfa Laval LKH Prime



Alfa Laval LKH Prime UltraPure

Alfa Laval LKH

Alfa Laval LKH UltraPure

Alfa Laval LKHPF

Alfa Laval LKH Multistage

Alfa Laval LKH Evap

Alfa Laval LKH Ex

BSM UNIONS

GASKET OPTIONS

EPDM, NITRILE, PTFE & VITON

Thread Type:



| | BSM Unions Complete | Male Part 316s/s | Hex Nut 304s/s | Liner 316s/s | BSM Gasket - EPDM | BSM Gasket - Teflon | BSM Gasket - Nitrile |
|-------------|---|---|---|---|--|---|---|
| |  |  |  |  |  |  |  |
| Size | | | | | | | |
| 25mm / 1" | 9611307740 | 9611303890 | 9611300575 | 9612413801 | 9611992821 | BSMOR025T | BSMOR025N |
| 38mm / 1.5" | 9611307741 | 9611303891 | 9611300576 | 9612413802 | 9611992822 | BSMOR040T | BSMOR040N |
| 51mm / 2" | 9611307742 | 9611303892 | 9611300577 | 9612413803 | 9611992823 | BSMOR050T | BSMOR050N |
| 63mm / 2.5" | 9611307743 | 9611303893 | 9611300578 | 9612413804 | 9611992824 | BSMOR065T | BSMOR065N |
| 76mm / 3" | 9611307744 | 9611303894 | 9611300579 | 9612413805 | 9611992825 | BSMOR080T | BSMOR080N |
| 101mm / 4" | 9611307745 | 9611303895 | 9611300521 | 9612413806 | 9611992826 | BSMOR100T | BSMOR100N |
| 125mm / 5" | BSMUN1256 | BSMMP1256 | BSMHN1254 | BSMWL1256 | BSMOR125E | N/A | N/A |
| 150mm / 6" | BSMUN1506 | BSMMP1506 | BSMHN1504 | BSMWL1506 | BSMOR150E | BSMOR150T | BSMOR150N |

CIP UNIONS - FLAT FACED

CIP GASKET OPTIONS

EPDM, PTFE & VITON

Thread Type:



| | CIP Unions Complete | Male Part 316s/s | Hex Nut 304s/s | Liner 316s/s | CIP Gasket - EPDM | CIP Gasket - Teflon | CIP Gasket - NITRILE |
|-------------|---|---|---|---|--|---|---|
| |  |  |  |  |  |  |  |
| Size | | | | | | | |
| 25mm / 1" | BSMCIPUN025 | 9612039401 | 9611300575 | 9612412101 | 9612427007 | CIPOR025T | CIPOR025N |
| 38mm / 1.5" | BSMCIPUN040 | 9612039402 | 9611300576 | 9612412102 | 9612427008 | CIPOR040T | CIPOR040N |
| 51mm / 2" | BSMCIPUN050 | 9612039403 | 9611300577 | 9612412103 | 9612427009 | CIPOR050T | CIPOR050N |
| 63mm / 2.5" | BSMCIPUN065 | 9612039404 | 9611300578 | 9612412104 | 9612427010 | CIPOR065T | CIPOR065N |
| 76mm / 3" | BSMCIPUN080 | 9612039405 | 9611300579 | 9612412105 | 9612427011 | CIPOR080T | CIPOR080N |
| 101mm / 4" | BSMCIPUN100 | 9612039406 | 9611300521 | 9612412106 | 9612427012 | CIPOR100T | CIPOR100N |
| 125mm / 5" | BSMCIPUN125 | CIPMP1256 | BSMHN1254 | CIPWL1256 | CIPOR125E | CIPOR125T | CIPOR125N |
| 150mm / 6" | BSMCIPUN150 | CIPMP1506 | BSMHN1504 | CIPWL1506 | CIPOR150E | CIPOR150T | CIPOR150N |

NZ UNIONS

| | NZ Unions Complete (Hex Nuts)* | Male Part 316s/s | Round Nut 304s/s | Liner 316s/s | NZ Gasket - EPDM |
|-------------|---|---|---|---|--|
| |  |  |  |  |  |
| Size | | | | | |
| 25mm / 1" | BSMNZUN025 | 9611303890 | 9612411907 | 9612412201 | 9612417107 |
| 38mm / 1.5" | BSMNZUN040 | 9611303891 | 9612411908 | 9612412202 | 9612417108 |
| 51mm / 2" | BSMNZUN050 | 9611303892 | 9612411909 | 9612412203 | 9612417109 |
| 63mm / 2.5" | BSMNZUN065 | 9611303893 | 9612411910 | 9612412204 | 9612417110 |
| 76mm / 3" | BSMNZUN080 | 9611303894 | 9612411911 | 9612412205 | 9612417111 |
| 101mm / 4" | BSMNZUN100 | 9611303895 | 9612411912 | 9612412206 | 9612417112 |

* Available with Round nuts on request.



| | Clamp Union Complete (Type 1 EPDM Gasket) | Short Ferrules (12.5mm) | Standard Ferrules (28.5mm) | Heavy Duty Clamp | End Cap | High Pressure Clamp 13MHP |
|-------------|---|-------------------------|----------------------------|------------------|------------|---------------------------|
| | | | | | | |
| Size | | | | | | |
| 13mm / 1/2" | TCUNION0156 | 9611340178 | | 9612011200 | 9611340599 | 13MHP-0.5 |
| 19mm / 3/4" | TCUNION0206 | 9611340179 | | | | |
| 25mm / 1" | TCUNION0256 | 9611340180 | 9611340320 | 9611991508 | 9611340600 | 9630210180 |
| 38mm / 1.5" | TCUNION0406 | 9611340181 | 9611340321 | | | |
| 51mm / 2" | TCUNION0506 | 9611340182 | 9611340322 | 9611991509 | 9611340601 | 9630210040 |
| 63mm / 2.5" | TCUNION0656 | 9611340183 | 9611340323 | 9611991510 | 9611340602 | 9630210213 |
| 76mm / 3" | TCUNION0806 | 9611340184 | 9611340324 | 9611991511 | 9611340603 | 9630210248 |
| 101mm / 4" | TCUNION1006 | 9611340185 | 9611340325 | 9611991512 | 9611340604 | 9630210042 |
| 150mm / 6" | TCUNION1506 | | 9611340186 | 9612011206 | 9611340605 | 13MHP-6 |
| 200mm/8" | TCUNION2006 | | 9611340187 | 9612011207 | 9611340606 | |

| | EPDM Type 1 | VITON Type 1 | NITRILE Type 1 | Solid PTFE Type 1 | EPDM Type 2 | Gasket PTFE / FPM (Teflon / Viton) Type 3 |
|-------------|-------------|--------------|----------------|-------------------|-------------|---|
| | | | | | | |
| Size | | | | | | |
| 13mm / 1/2" | 9630290273 | 9630290274 | 9630290272 | 9630290270 | | |
| 19mm / 3/4" | 9630290265 | 9630290266 | 9630290264 | 9630290271 | | |
| 25mm / 1" | 9630290141 | 9630290009 | 9630298451 | 9630298224 | 9630290031 | 9630290072 |
| 38mm / 1.5" | 9630290044 | 9630290022 | 9630298542 | 9630298227 | 9630290038 | 9630290073 |
| 51mm / 2" | 9630290043 | 9630290030 | 9630298453 | 9630298228 | 9630290017 | 9630290074 |
| 63mm / 2.5" | 9630290048 | 9630290040 | 9630298454 | 9630298223 | 9630290035 | 9630290075 |
| 76mm / 3" | 9630290036 | 9630290049 | 9630298455 | 9630298225 | 9630290138 | 9630290076 |
| 101mm / 4" | 9630290018 | 9630290053 | 9630298456 | 9630298226 | 9630290025 | 9630290077 |
| 150mm / 6" | 9630290234 | 9630290220 | 9630290112 | 9630298235 | 9630290131 | 9630290085 |

TRI-CLOVER ROTARY SWING JOINT

ROTARY SWING JOINT A12MPS

| Code | Size | |
|--------|-------------|--|
| 210135 | 38mm / 1.5" | |
| 210136 | 51mm / 2" | |
| 210137 | 63mm / 2.5" | |
| 210138 | 76mm / 3" | |
| 210140 | 101mm / 4" | |

MESH SCREEN GASKETS 40MPS-U

Various micron sizes available. For More information, contact your nearest Matrix Office.

TRI-CLOVER HOSE TAILS (14MPHR)



| Size | |
|-------------|--------|
| 25mm / 1" | 213384 |
| 38mm / 1.5" | 213382 |
| 51mm / 2" | 213383 |
| | |
| | |

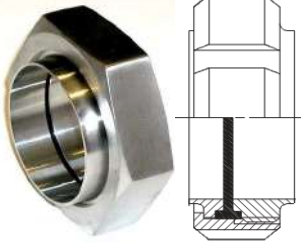
WINE UNIONS

| | Male Part Butt Weld | Liner Butt Weld | Wine Nut Brass | Liner Slip On Weld | Wine Gasket White Rubber | Nut Stainless Steel |
|-------------|---|---|---|---|---|---|
| |  |  |  |  |  |  |
| Size | | | | | | |
| 25mm / 1" | WINMP0256 | WINLB0256 | WINNU0254 | 9612412201 | WINOR025WR | WINNU0254S |
| 38mm / 1.5" | WINMP0406 | WINLB0406 | WINNU0404 | 9612412202 | WINOR040WR | WINNU0404S |
| 51mm / 2" | WINMP0506 | WINLB0506 | WINNU0504 | 9612412203 | WINOR050WR | WINNU0504S |
| 63mm / 2.5" | WINMP0656 | WINLB6506 | WINNU0654 | 9612412204 | WINOR065WR | WINNU0654S |
| 76mm / 3" | WINMP0806 | WINLB0806 | WINNU0804 | 9612412205 | WINOR080WR | WINNU0804S |
| 101mm / 4" | WINMP1006 | WINLB1006 | WINNU1004 | 9612412206 | WINOR100WR | WINNU1004S |

IDF UNION

Thread Type:



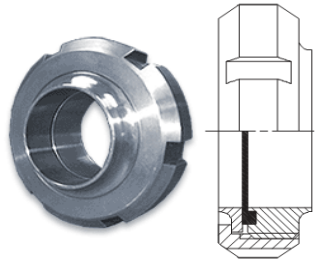
| Size | Complete Union | Male Part 316s/s | Liner 316 s/s | Nut 304 s/s | Gasket NBR* |  |
|-------------|----------------|------------------|---------------|-------------|-------------|--|
| 25mm / 1" | 9611330955 | 3131900621 | 3131900681 | 9611300053 | 3131900311 | |
| 38mm / 1.5" | 9611330956 | 3131900631 | 3131900691 | 9611300054 | 3131900321 | |
| 51mm / 2" | 9611330957 | 3131900153 | 3131900273 | 9611300055 | 3131900331 | |
| 63mm / 2.5" | 9611330958 | 3131900163 | 3131900711 | 9611300056 | 3131900341 | |
| 76mm / 3" | 9611330959 | 3131900173 | 3131900721 | 9611300057 | 3131900351 | |
| 101mm / 4" | 9611330960 | 9611303815 | 9611303835 | 9611303970 | 9611991477 | |

*: EPDM, NBR, VITON Gasket options available

SMS UNION

Thread Type:



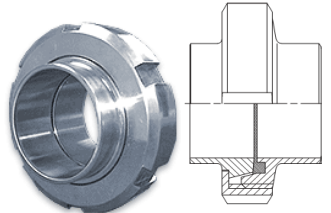
| Size | Complete Union | Male Part 316s/s | Liner 316 s/s | Nut 304 s/s | Gasket EPDM* |  |
|-------|----------------|------------------|---------------|-------------|--------------|---|
| DN25 | 9611330382 | 191001 | 190994 | 190613 | 3131703753 | |
| DN40 | 9611330383 | 191003 | 190996 | 190615 | 3131703772 | |
| DN50 | 9611330384 | 191004 | 190997 | 190616 | 3131703785 | |
| DN65 | 9611330385 | 191005 | 190998 | 190617 | 3131703793 | |
| DN80 | 9611330386 | 191006 | 190999 | 190618 | 3131703803 | |
| DN100 | 9611330387 | 3131708173 | 3131708852 | 3131708841 | 3134708862 | |

*: EPDM, NBR, VITON Gasket options available

DIN UNION

Thread Type:



| Size | Complete Union | Male Part 316s/s | Liner 316 s/s | Nut 304 s/s | Gasket NBR* |  |
|-------------|----------------|------------------|---------------|-------------|-------------|---|
| 25mm / 1" | 9611330394 | 3131800071 | 3131800181 | 3131800141 | 52734604 | |
| 38mm / 1.5" | 9611330395 | 3131800091 | 3131800191 | 3131800143 | 52734606 | |
| 51mm / 2" | 9611330396 | 3131800101 | 3131800201 | 3131800144 | 52734607 | |
| 63mm / 2.5" | 9611330397 | 3131800111 | 3131800211 | 3131800145 | 52734608 | |
| 76mm / 3" | 9611330398 | 3131800121 | 3131800221 | 3131800146 | 52734609 | |
| 101mm / 4" | 9611330399 | 3131800341 | 3131800231 | 3131800148 | 52734611 | |

*: EPDM, NBR, VITON Gasket options available

'PEDCO' HYGENIC UNIONS

Thread Type: 

| | Hygenic Unions Complete | Male Part 316s/s | Hex Nut 304s/s | Liner 316s/s | Gasket EPDM | Gasket Teflon | Blank Cap |
|-------------|---|---|---|---|---|---|---|
| |  |  |  |  |  |  |  |
| Size | | | | | | | |
| 12mm / 1/2" | PHUUN0156 | PHUMP0156 | | PHUWL0156 | PHUOR0156 | PHUOR0156T | PHUBC0156 |
| 18mm / 3/4" | PHUUN0206 | PHUMP0206 | | PHUWL0206 | PHUOR0206 | PHUOR0206T | PHUBC0206 |
| 25mm / 1" | PHUUN0256 | PHUMP0256 | 9611300575 | PHUWL0256 | PHUOR0256 | PHUOR0256T | PHUBC0256 |
| 38mm / 1.5" | PHUUN0406 | PHUMP0406 | 9611300576 | PHUWL0406 | PHUOR0406 | PHUOR0406T | PHUBC0406 |
| 51mm / 2" | PHUUN0506 | PHUMP0506 | 9611300577 | PHUWL0506 | PHUOR0506 | PHUOR0506T | PHUBC0506 |
| 63mm / 2.5" | PHUUN0656 | PHUMP0656 | 9611300578 | PHUWL0656 | PHUOR0656 | PHUOR0656T | PHUBC0656 |
| 76mm / 3" | PHUUN0806 | PHUMP0806 | 9611300579 | PHUWL0806 | PHUOR0806 | PHUOR0806T | PHUBC0806 |
| 101mm / 4" | PHUUN1006 | PHUMP1006 | 9611300521 | PHUWL1006 | PHUOR1006 | PHUOR1006T | PHUBC1006 |

MISCELLANEOUS FITTINGS

| BSM REDUCING LINERS Machined | |
|------------------------------|--|
| |  |
| Size | |
| 38 x 25mm | 9611307791 |
| 51 x 25mm | 9611307801 |
| 51 x 38mm | 9611307811 |
| 63 x 25 mm | 9611307820 |
| 63 x 38 mm | 9611307821 |
| 63 x 51 mm | 9611307831 |
| 76 x 25 mm | 9611307840 |
| 76 x 38 mm | 9611307841 |
| 76 x 51 mm | 9611307851 |
| 76 x 63 mm | 9611307861 |
| 100 x 63mm | 9611307871 |
| 100 x 76mm | 9611307881 |

| | HOSE TAILS MACHINED | HOSE TAILS BUTT WELD SINGLE ROLL | DOMED END CAPS | BSM Blank Hex Nut | BSM Blank Cap |
|--------------|--|--|--|--|--|
| |  |  |  |  |  |
| Size | | | | | |
| 18mm / 3/4" | HOSET0206M | | EC0206D | | |
| 25mm / 1" | HOSET0256M | HOSET0256 | EC0256D | BSMBN0254 | 9611330629 |
| 32mm / 1.25" | HOSET0326M | HOSET0326 | EC0326D | | |
| 38mm / 1.5" | HOSET0406M | HOSET0406 | EC0406D | BSMBN0404 | 9611330630 |
| 51mm / 2" | HOSET0506M | HOSET0506 | EC0506D | BSMBN0504 | 9611330631 |
| 63mm / 2.5" | HOSET0656M | HOSET0656 | EC0656D | BSMBN0654 | 9611330632 |
| 76mm / 3" | HOSET0806M | HOSET0806 | EC0806D | BSMBN0804 | 9611330633 |
| 101mm / 4" | HOSET1006M | HOSET1006 | EC1006D | BSMBN1004 | 9611330634 |
| 125mm / 5" | | HOSET1256 | | BSMBN1254 | BSMBC1256 |
| 150mm / 6" | | HOSET1506 | EC1506D | BSMBN1504 | BSMBC1506 |
| 200mm / 8" | | | EC2006D | | |

UNION SPANNERS

| | HEX SPANNERS ALLOY | HEX SPANNERS ALUMINIUM | ROUND NUT SPANNERS | ROUND NUT SPANNERS (Articulated) |
|-------------|---|--|---|---|
| |  |  |  |  |
| Size | | | | |
| 10 - 20mm | | | | 9611901027 |
| 25mm / 1" | SPANN025ALLOY | SPANN025ALUM | | 9611901028 |
| 38mm / 1.5" | SPANN040ALLOY | SPANN040ALUM | | |
| 51mm / 2" | SPANN050ALLOY | SPANN050ALUM | 3131709351 | |
| 63mm / 2.5" | SPANN065ALLOY | SPANN065ALUM | | 9611901029 |
| 76mm / 3" | SPANN080ALLOY | SPANN080ALUM | | |
| 101mm / 4" | SPANN100ALLOY | SPANN100ALUM | | |
| 125mm / 5" | | SPANN125ALUM | | 9611901030 |
| 150mm / 6" | | SPANN150ALUM | | |


BENDS


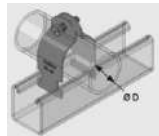
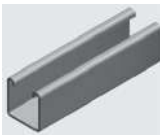
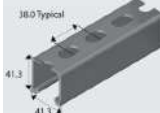
| | 90 Deg Polished 304s/s | 90 Deg Polished 316s/s | 45 Deg Polished 316s/s | 180 Deg Polished 316s/s | 90 Deg 1D bends | 90 Deg 3xD Long Radius 316s/s |
|-------------|---|---|---|---|---|---|
| |  |  |  |  |  |  |
| Size | | | | | | |
| 12mm / 1/2" | | BENDP0156090 | BENDP0156045 | BENDP0156180 | | |
| 18mm / 3/4" | BENDP0204090 | BENDP0206090 | BENDP0206045 | BENDP0206180 | | |
| 25mm / 1" | 9612636501 | 9612636507 | BENDP0256045 | BENDP0256180 | BENDP02561XD | 9612928268 |
| 38mm / 1.5" | 9612636502 | 9612636508 | BENDP0406045 | BENDP0406180 | BENDP04061XD | 9612928270 |
| 51mm / 2" | 9612636503 | 9612636509 | BENDP0506045 | BENDP0506180 | BENDP05061XD | 9612928271 |
| 63mm / 2.5" | 9612636504 | 9612636510 | BENDP0656045 | BENDP0656180 | BENDP06561XD | 9612928272 |
| 76mm / 3" | 9612636505 | 9612636511 | BENDP0806045 | BENDP0806180 | BENDP08061XD | 9612928273 |
| 101mm / 4" | 9612636506 | 9612636512 | BENDP1006045 | BENDP1006180 | BENDP10061XD | |
| 125mm / 5" | BENDP1254090 | BENDP1256090 | BENDP1256045 | BENDP1256180 | | |
| 150mm / 6" | BENDP1504090 | BENDP1506090 | BENDP1506045 | BENDP1506180 | | |

Zero Tangent and Unpolished bends available on request.

TUBE CLAMPS AND BRACKET SYSTEMS

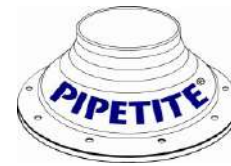
304 S/S

| | PLAIN INTERLOCKING | BOSSED INTERLOCKING | SADDLE DOUBLE BOLTED | LONG TANG |
|--------------|---|---|---|---|
| |  |  |  |  |
| Size | | | | |
| 12mm / 1/2" | | | CLAMP0154S | |
| 18mm / 3/4" | CLAMP0204 | | CLAMP0204S | CLAMP0204L |
| 25mm / 1" | CLAMP0254 | CLAMP0254B | CLAMP0254S | CLAMP0254L |
| 32mm / 1.25" | CLAMP0324 | CLAMP0324B | CLAMP0324S | CLAMP0324L |
| 38mm / 1.5" | CLAMP0404 | CLAMP0404B | CLAMP0404S | CLAMP0404L |
| 51mm / 2" | CLAMP0504 | CLAMP0504B | CLAMP0504S | CLAMP0504L |
| 63mm / 2.5" | CLAMP0654 | CLAMP0654B | CLAMP0654S | CLAMP0654L |
| 76mm / 3" | CLAMP0804 | CLAMP0804B | CLAMP0804S | CLAMP0804L |
| 101mm / 4" | CLAMP1004 | CLAMP1004B | CLAMP1004S | CLAMP1004L |
| 125mm/5" | | | CLAMP1254S | CLAMP1254L |
| 150mm/6" | | | CLAMP1504S | CLAMP1504L |
| 200mm/8" | | | CLAMP2004S | |
| 250mm/10" | | | CLAMP2504S | |

|  | |
|---|---|
| E5 Cable and Conduit clamps HDG. 304s/s | Ezystrut Channel 304s/s |
|  |  |
| E5-13-S | E1000S |
| E5-19-S | |
| E5-25-S | |
| | Ezystrut Slotted Channel 304s/s |
| E5-38-S |  |
| E5-51-S | |
| E5-63-S | |
| E5-76-S | |
| E5-101-S | |
| | E1000SS |

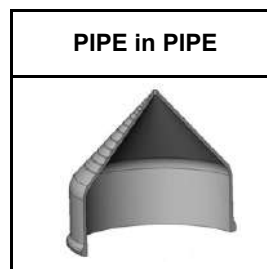
OTHER CLAMPS ON REQUEST





PIPETITE

| | Standard | Re-Boot | Flat | Grommet |
|-----------|------------|----------|----------|----------|
| | | | | |
| Size (mm) | CODE | CODE | CODE | CODE |
| 0 - 25 | PT 0-35 | | | PT317130 |
| 0 - 65 | PT 0-65 | PT317120 | PT317202 | PT317131 |
| 0 - 95 | PT 0-95 | PT317121 | PT317203 | PT317132 |
| 70 - 135 | PT 70-125 | PT317122 | PT317204 | PT317133 |
| 100 - 180 | PT 100-150 | PT317123 | | PT317134 |
| 125-275 | | PT317128 | | |
| 165-380 | | PT317124 | | |



| Size (mm) | CODE |
|--------------|----------|
| 100 x 0-95 | PT319010 |
| 150 x 70-135 | PT319011 |
| 200 x 0-180 | PT317153 |



| Size (mm) | CODE |
|-----------|----------|
| 6 | PT317135 |
| 8 | PT317136 |
| 10 | PT317137 |
| 12 | PT317138 |

- * Pre drilled holes
- * 316 s/s polished support ring
- * Self Sealing ridge pattern
- * Pre moulded cut lines
- * Silicon rubber, FDA certified.
- * -60°C to 260°C temp rated
- * W/mK = 0.25 Thermal Conductivity



| QTY | CODE |
|-----|----------|
| 100 | PT317127 |

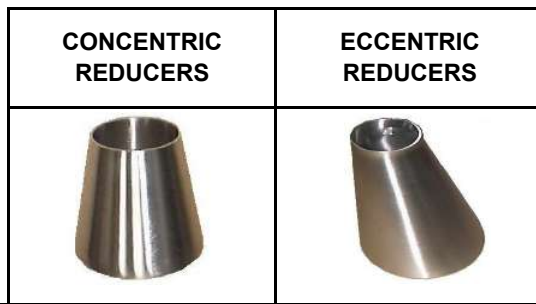


| QTY | CODE |
|-----|----------|
| 100 | PT317159 |

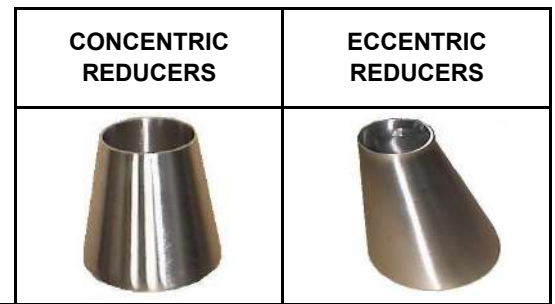


TUBE REDUCERS

316s/s polished




| Size | Code | Code |
|-----------|---------------|---------------|
| 12 x 8mm | CONCP015-0086 | ECCEP015-0086 |
| 12 x 10mm | CONCP015-0106 | ECCEP015-0106 |
| 20 x 12mm | CONCP020-0156 | ECCEP020-0156 |
| 25 x 6mm | CONCP025-0066 | |
| 25 x 12mm | CONCP025-0156 | ECCEP025-0156 |
| 25 x 20mm | CONCP025-0206 | ECCEP025-0206 |
| 32 x 12mm | CONCP032-0156 | ECCEP032-0156 |
| 32 x 18mm | CONCP032-0206 | ECCEP032-0206 |
| 32 x 25mm | CONCP032-0256 | ECCEP032-0256 |
| 38 x 12mm | CONCP040-0156 | ECCEP040-0156 |
| 38 x 18mm | CONCP040-0206 | ECCEP040-0206 |
| 38 x 25mm | CONCP040-0256 | ECCEP040-0256 |
| 38 x 32mm | CONCP040-0326 | ECCEP040-0326 |
| 51 x 10mm | CONCP050-0106 | |
| 51 x 12mm | CONCP050-0156 | ECCEP050-0156 |
| 51 x 18mm | CONCP050-0206 | ECCEP050-0206 |
| 51 x 25mm | CONCP050-0256 | ECCEP050-0256 |
| 51 x 32mm | CONCP050-0326 | ECCEP050-0326 |
| 51 x 38mm | CONCP050-0406 | ECCEP050-0406 |
| 63 x 18mm | CONCP065-0206 | |
| 63 x 25mm | CONCP065-0256 | ECCEP065-0256 |
| 63 x 32mm | CONCP065-0326 | ECCEP065-0326 |
| 63 x 38mm | CONCP065-0406 | ECCEP065-0406 |
| 63 x 51mm | CONCP065-0506 | ECCEP065-0506 |
| 76 x 12mm | CONCP080-0156 | |
| 76 x 25mm | CONCP080-0256 | ECCEP080-0256 |
| 76 x 32mm | CONCP080-0326 | |
| 76 x 38mm | CONCP080-0406 | ECCEP080-0406 |
| 76 x 51mm | CONCP080-0506 | ECCEP080-0506 |
| 76 x 63mm | CONCP080-0656 | ECCEP080-0656 |






| Size | Code | Code |
|-------------|---------------|---------------|
| 101 x 18mm | CONCP100-0206 | |
| 101 x 25mm | CONCP100-0256 | ECCEP100-0256 |
| 101 x 32mm | CONCP100-0326 | |
| 101 x 38mm | CONCP100-0406 | ECCEP100-0406 |
| 101 x 51mm | CONCP100-0506 | ECCEP100-0506 |
| 101 x 63mm | CONCP100-0656 | ECCEP100-0656 |
| 101 x 76mm | CONCP100-0806 | ECCEP100-0806 |
| 125 x 25mm | CONCP125-0256 | ECCEP125-0255 |
| 125 x 51mm | CONCP125-0506 | ECCEP125-0506 |
| 125 x 63mm | CONCP125-0656 | ECCEP125-0656 |
| 125 x 76mm | CONCP125-0806 | ECCEP125-0806 |
| 125 x 101mm | CONCP125-1006 | ECCEP125-1006 |
| 150 x 18mm | CONCP150-0206 | |
| 150 x 25mm | CONCP150-0256 | ECCEP150-0254 |
| 150 x 38mm | CONCP150-0406 | ECCEP150-0405 |
| 150 x 51mm | CONCP150-0506 | ECCEP150-0506 |
| 150 x 63mm | CONCP150-0656 | ECCEP150-0656 |
| 150 x 76mm | CONCP150-0806 | ECCEP150-0806 |
| 150 x 101mm | CONCP150-1006 | ECCEP150-1006 |
| 150 x 125mm | CONCP150-1256 | ECCEP150-1256 |
| 200 x 51mm | CONCP200-0506 | ECCEP200-0504 |
| 200 x 63mm | CONCP200-0656 | ECCEP200-0655 |
| 200 x 76mm | CONCP200-0806 | ECCEP200-0806 |
| 200 x 101mm | CONCP200-1006 | ECCEP200-1006 |
| 200 x 125mm | CONCP200-1256 | ECCEP200-1256 |
| 200 x 150mm | CONCP200-1506 | ECCEP200-1506 |
| 250 x 100mm | CONCP250-1006 | ECCEP250-1006 |
| 250 x 150mm | CONCP250-1506 | ECCEP250-1506 |
| 250 x 200mm | CONCP250-2006 | ECCEP250-2006 |
| 300 x 101mm | CONCP300-1006 | ECCEP300-1004 |
| 300 x 150mm | CONCP300-1506 | ECCEP300-1505 |
| 300 x 200mm | CONCP300-2006 | ECCEP300-2006 |
| 300 x 250mm | CONCP300-2507 | ECCEP300-2506 |

Custom sizes available on request.

TEES



| | EQUAL REDUCING TEES 316 S/S | PULLED REDUCING TEES 316S/S |
|-----------|---|---|
| |  |  |
| Size mm | | |
| 25 x 8 | TEERP025-0106 | TEEPP025-0104 |
| 25 x 12 | TEERP025-0156 | TEEPP025-0156 |
| 25 x 18 | TEERP025-0206 | TEEPP025-0206 |
| | | |
| 32 x 12 | TEERP032-0156 | TEEPP032-0156 |
| 32 x 18 | TEERP032-0206 | TEEPP032-0120 |
| 32 x 25 | TEERP032-0256 | TEEPP032-0256 |
| | | |
| 38 x 12 | TEERP040-0156 | TEEPP040-0156 |
| 38 x 18 | TEERP040-0206 | TEEPP040-0206 |
| 38 x 25 | TEERP040-0256 | TEEPP040-0256 |
| 38 x 32 | TEERP040-0326 | TEEPP040-0326 |
| | | |
| 51 x 12 | TEERP050-0156 | TEEPP050-0156 |
| 51 x 18 | TEERP050-0206 | TEEPP050-0206 |
| 51 x 25 | TEERP050-0256 | TEEPP050-0256 |
| 51 x 32 | TEERP050-0326 | TEEPP050-0326 |
| 51 x 38 | TEERP050-0406 | TEEPP050-0406 |
| | | |
| 63 x 12 | TEERP065-0156 | TEEPP065-0156 |
| 63 x 18 | TEERP065-0206 | TEEPP065-0206 |
| 63 x 25 | TEERP065-0256 | TEEPP065-0256 |
| 63 x 32 | TEERP065-0326 | TEEPP065-0326 |
| 63 x 38 | TEERP065-0406 | TEEPP065-0406 |
| 63 x 51 | TEERP065-0506 | TEEPP065-0506 |
| | | |
| 76 x 12 | TEERP080-0156 | TEEPP080-0156 |
| 76 x 18 | TEERP080-0206 | TEEPP080-0206 |
| 76 x 25 | TEERP080-0256 | TEEPP080-0256 |
| 76 x 32 | TEERP080-0326 | TEEPP080-0326 |
| 76 x 38 | TEERP080-0406 | TEEPP080-0406 |
| 76 x 51 | TEERP080-0506 | TEEPP080-0506 |
| 76 x 63 | TEERP080-0656 | TEEPP080-0656 |
| | | |
| 101 x 12 | TEERP100-0156 | TEEPP100-0156 |
| 101 x 18 | TEERP100-0206 | TEEPP100-0206 |
| 101 x 25 | TEERP100-0256 | TEEPP100-0256 |
| 101 x 32 | TEERP100-0326 | TEEPP100-0326 |
| 101 x 38 | TEERP100-0406 | TEEPP100-0406 |
| 101 x 51 | TEERP100-0506 | TEEPP100-0506 |
| 101 x 63 | TEERP100-0656 | TEEPP100-0656 |
| 101 x 76 | TEERP100-0806 | TEEPP100-0806 |
| | | |
| 125 x 51 | TEERP125-0506 | TEEPP125-0506 |
| | | |
| 150 x 25 | TEERP150-0256 | TEEPP150-0256 |
| 150 x 32 | TEERP150-0326 | TEEPP150-0326 |
| 150 x 38 | TEERP150-0406 | TEEPP150-0406 |
| 150 x 51 | TEERP150-0506 | TEEPP150-0506 |
| 150 x 63 | TEERP150-0656 | TEEPP150-0656 |
| 150 x 76 | TEERP150-0806 | TEEPP150-0806 |
| 150 x 101 | TEERP150-1006 | TEEPP150-1006 |

| | EQUAL TEE Polished 304s/s | EQUAL TEE Polished 316s/s | PULLED TEE Polished 316s/s |
|--------------|---|---|---|
| |  |  |  |
| Size | | | |
| 13mm / 1/2" | TEEEP0154 | TEEEP0156 | |
| 19mm / 3/4" | TEEEP0204 | TEEEP0206 | |
| 25mm / 1" | TEEEP0254 | TEEEP0256 | TEEPP0256 |
| 32mm / 1.25" | TEEEP0324 | TEEEP0326 | TEEPP0326 |
| 38mm / 1.5" | TEEEP0404 | TEEEP0406 | TEEPP0406 |
| 51mm / 2" | TEEEP0504 | TEEEP0506 | TEEPP0506 |
| 63mm / 2.5" | TEEEP0654 | TEEEP0656 | TEEPP0656 |
| 76mm / 3" | TEEEP0804 | TEEEP0806 | TEEPP0806 |
| 101mm / 4" | TEEEP1004 | TEEEP1006 | TEEPP1006 |
| 125mm / 5" | TEEEP1254 | TEEEP1256 | TEEPP1256 |
| 150mm / 6" | TEEEP1504 | TEEEP1506 | TEEPP1506 |
| 200mm / 8" | TEEEP2004 | TEEEP2006 | |

| | Y' PIECE Polished 316s/s | PULLED CROSS Polished 316s/s | CROSS PIECE Polished 316s/s |
|--------------|--|---|---|
| |  |  |  |
| Size | | | |
| 13mm / 1/2" | TEEYP0156 | | CROEP0156 |
| 19mm / 3/4" | TEEYP0206 | | CROEP0206 |
| 25mm / 1" | TEEYP0256 | CROPP0256 | CROEP0256 |
| 32mm / 1.25" | TEEYP0326 | CROPP0326 | CROEP0326 |
| 38mm / 1.5" | TEEYP0406 | CROPP0406 | CROEP0406 |
| 51mm / 2" | TEEYP0506 | CROPP0506 | CROEP0506 |
| 63mm / 2.5" | TEEYP0656 | CROPP0656 | CROEP0656 |
| 76mm / 3" | TEEYP0806 | CROPP0806 | CROEP0806 |
| 101mm / 4" | TEEYP1006 | CROPP1006 | CROEP1006 |
| 125mm / 5" | TEEYP1256 | CROPP1256 | CROEP1256 |
| 150mm / 6" | TEEYP1506 | CROPP1506 | CROEP1506 |

| | 45 DEGREE TEES 316S/S | SWEPT TEE Polished 316s/s |
|-------------|---|---|
| |  |  |
| Size | | |
| 25mm / 1" | TEEAP025645 | TEESP0256 |
| 38mm / 1.5" | TEEAP040645 | TEESP0406 |
| 51mm / 2" | TEEAP050645 | TEESP0506 |
| 63mm / 2.5" | TEEAP065645 | TEESP0656 |
| 76mm / 3" | TEEAP080645 | TEESP0806 |
| 101mm / 4" | TEEAP100645 | TEESP1006 |


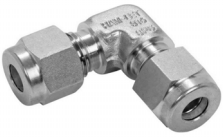
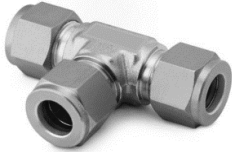


SCREWED BSP FITTINGS


| | REDUCING BUSH | REDUCING NIPPLES |
|---|---|------------------|
|  |  | |
| Size | | |
| 1/4 - 1/8" | BSPRB008-0066 | BSPRN008-0066 |
| 3/8 - 1/8" | BSPRB010-0066 | BSPRN010-0066 |
| 3/8 - 1/4" | BSPRB010-0086 | BSPRN010-0086 |
| 1/2 - 1/8" | BSPRB015-0066 | BSPRN015-0066 |
| 1/2 - 1/4" | BSPRB015-0086 | BSPRN015-0086 |
| 1/2 - 3/8" | BSPRB015-0106 | BSPRN015-0106 |
| 3/4 - 1/4" | BSPRB020-0086 | BSPRN020-0086 |
| 3/4 - 3/8" | BSPRB020-0106 | BSPRN020-0086 |
| 3/4 - 1/2" | BSPRB020-0156 | BSPRN020-0156 |
| 1 - 1/4" | BSPRB025-0086 | BSPRN020-0086 |
| 1 - 3/8" | BSPRB025-0106 | BSPRN025-0106 |
| 1 - 1/2" | BSPRB025-0156 | BSPRN025-0156 |
| 1 - 3/4" | BSPRB025-0206 | BSPRN025-0206 |
| 1 1/4 - 3/4" | BSPRB032-0206 | BSPRN032-0156 |
| 1 1/4 - 1" | BSPRB032-0256 | BSPRN032-0256 |
| 1 1/2 - 1/2" | BSPRB040-0156 | BSPRN040-0156 |
| 1 1/2 - 3/4" | BSPRB040-0206 | BSPRN040-0206 |
| 1 1/2 - 1" | BSPRB040-0256 | BSPRN040-0256 |
| 1 1/2-1 1/4" | BSPRB040-0326 | BSPRN040-0326 |
| 2 - 1" | BSPRB050-0256 | BSPRN050-0256 |
| 2 - 1 1/2" | BSPRB050-0406 | BSPRN050-0406 |
| 2 1/2" - 2" | BSPRB065-0506 | BSPRN065-0506 |
| 3 - 2" | BSPRB080-0506 | BSPRN080-0506 |
| 3 - 2 1/2" | BSPRB080-0656 | BSPRN080-0656 |
| 4 - 3" | BSPRB100-0806 | BSPRN100-0806 |

| | BARREL NIPPLE | HEX NIPPLES | BSP BLANK CAP | HEX PLUGS | BSP ELBOW | SOCKETS |
|---|---|---|---|---|--|-----------|
|  |  |  |  |  |  | |
| NB | INCH | | | | | |
| 6mm | 1/8" | BSPBN0066 | BSPHN0066 | BSPPL0066 | BSPEL0066 | BSPSO0066 |
| 8mm | 1/4" | BSPBN0086 | BSPHN0086 | BSPPL0086 | BSPEL0086 | BSPSO0086 |
| 10mm | 3/8" | BSPBN0106 | BSPHN0106 | BSPPL0106 | BSPEL0106 | BSPSO0106 |
| 15mm | 1/2" | BSPBN0156 | BSPHN0156 | BSPPL0156 | BSPEL0156 | BSPSO0156 |
| 20mm | 3/4" | BSPBN0206 | BSPHN0206 | BSPPL0206 | BSPEL0206 | BSPSO0206 |
| 25mm | 1" | BSPBN0256 | BSPHN0256 | BSPPL0256 | BSPEL0256 | BSPSO0256 |
| 32mm | 1 1/4" | BSPBN0326 | BSPHN0326 | BSPPL0326 | BSPEL0326 | BSPSO0326 |
| 40mm | 1 1/2" | BSPBN0406 | BSPHN0406 | BSPPL0406 | BSPEL0406 | BSPSO0406 |
| 50mm | 2" | BSPBN0506 | BSPHN0506 | BSPPL0506 | BSPEL0506 | BSPSO0506 |
| 65mm | 2 1/2" | BSPBN0656 | BSPHN0656 | BSPPL0656 | BSPEL0656 | BSPSO0656 |
| 80mm | 3" | BSPBN0806 | BSPHN0806 | BSPPL0806 | BSPEL0806 | BSPSO0806 |
| 100mm | 4" | BSPBN1006 | BSPHN1006 | BSPPL1006 | BSPEL1006 | BSPSO1006 |

| | BSP MALE / FEMALE BEND | BSP HOSETAIL | TOE NIPPLES | TEE | UNION | BSP/BSM MALE ADAPTOR | BSP TO TUBE ADAPTOR |
|--|--|--|--|--|---|--|---------------------|
|  |  |  |  |  |  |  | |
| NB | INCH | | | | | | |
| 6mm | 1/8" | | BSPTE0066 | BSPUN0066 | | | |
| 8mm | 1/4" | BSPHT0086 | BSPTE0086 | BSPUN0086 | | | |
| 10mm | 3/8" | BSPHT0106 | BSPTE0106 | BSPUN0106 | BSPTU0106 | | |
| 15mm | 1/2" | BSPHT0156 | BSPTE0156 | BSPUN0156 | BSPTU0156 | | |
| 20mm | 3/4" | BSPHT0206 | BSPTE0206 | BSPUN0206 | BSPTU0206 | | |
| 25mm | 1" | BSPHT0256 | BSPTE0256 | BSPUN0256 | BSPTU0256 | | |
| 32mm | 1 1/4" | BSPHT0326 | BSPTE0326 | BSPUN0326 | BSPTU0326 | | |
| 40mm | 1 1/2" | BSPHT0406 | BSPTE0406 | BSPUN0406 | BSPTU0406 | | |
| 50mm | 2" | BSPHT0506 | BSPTE0506 | BSPUN0506 | BSPTU0506 | | |
| 65mm | 2 1/2" | | BSPTE0656 | BSPUN0656 | BSPTU0656 | | |
| 80mm | 3" | | BSPTE0806 | BSPUN0806 | BSPTU0806 | | |
| 100mm | 4" | | BSPTE1006 | BSPUN1006 | BSPTU1006 | | |

COMPRESSION FITTINGS

| | Straight Connector | Union Elbow | Union Tee | Union Cross | Bulk Head Union |
|------|---|---|---|---|---|
| |  |  |  |  |  |
| Size | CODE | CODE | CODE | CODE | CODE |
| 1/8" | TSU2 | TSEU2 | TSTU2 | | TSBHU2 |
| 1/4" | TSU4 | TSEU4 | TSTU4 | TSCR4 | TSBHU4 |
| 3/8" | TSU6 | TSEU6 | TSTU6 | TSCR6 | TSBHU6 |
| 1/2" | TSU8 | TSEU8 | TSTU8 | TSCR8 | TSBHU8 |
| 5/8" | TSU10 | TSEU10 | TSTU10 | | TSBHU10 |
| 3/4" | TSU12 | TSEU12 | TSTU12 | | TSBHU12 |
| 1" | TSU16 | TSEU16 | TSTU16 | | TSBHU16 |

| | Male Connector | Female Connector | Reducing Union | Male Elbow | Female Elbow |
|-------------|---|---|---|--|---|
| |  |  |  |  |  |
| Size | CODE | CODE | CODE | CODE | CODE |
| 1/8" - 1/8" | TSMC22 | | | TSEM22 | |
| 1/4" - 1/8" | | TSFC42 | TSUR42 | | |
| 1/4" - 1/4" | TSMC44 | TSFC44 | | TSEM44 | TSEF44 |
| 1/4" - 3/8" | TSMC46 | | | | |
| 1/4"-1/2" | TSMC48 | | | | |
| 3/8"-1/4" | TSMC64 | | TSUR64 | TSEM64 | |
| 3/8"-3/8" | TSMC66 | TSFC66 | | TSEM66 | TSEF66 |
| 3/8"-1/2" | TSMC68 | | | | |
| 1/2"-1/4" | | | TSUR84 | | |
| 1/2"-3/8" | TSMC86 | | TSUR86 | | |
| 1/2"-1/2" | TSMC88 | TSFC88 | | TSEM88 | TSEF88 |
| 1/2"-3/4" | TSMC812 | | | | |
| 5/8"-1/2" | TSMC108 | | | | |
| 3/4"-3/8" | | | TSUR126 | | |
| 3/4"-1/2" | TSMC128 | TSFC128 | | | |
| 3/4"-3/4" | TSMC1212 | TSFC1212 | | TSEM1212 | |
| 3/4"-1" | TSMC1216 | | | | |
| 1"-3/4" | | | TSUR1612 | | |
| 1"-1" | TSMC1616 | TSFC1616 | | TSEM1616 | |

TUBE - FOOD GRADE AS 1528



POLISHED (STD SUPPLY)



| | 304 s/s | 316 s/s |
|---------------|-----------|-----------|
| 13mm / 1/2" | | TUBEP0156 |
| 19mm / 3/4" | | TUBEP0206 |
| 25mm / 1" | TUBEP0254 | TUBEP0256 |
| 32mm / 1 1/4" | TUBEP0324 | TUBEP0326 |
| 38mm / 1 1/2" | TUBEP0404 | TUBEP0406 |
| 51mm / 2" | TUBEP0504 | TUBEP0506 |
| 63mm / 2 1/2" | TUBEP0654 | TUBEP0656 |
| 76mm / 3" | TUBEP0804 | TUBEP0806 |
| 101mm / 4" | TUBEP1004 | TUBEP1006 |
| 125mm / 5" | TUBEP1254 | TUBEP1256 |
| 150mm / 6" | TUBEP1504 | TUBEP1506 |

STRUCTURAL STEEL PARTS

SQUARE SECTION TUBE

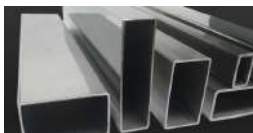
POLISHED 304s/s **



| Size | |
|---------------|--------------|
| 25 x 25 x 1.6 | TUSQP0254 |
| 25 x 25 x 3 | TUSQP025410G |
| 32 x 32 x 1.6 | TUSQP0324 |
| 32 x 32 x 3 | TUSQP032410G |
| 38 x 38 x 1.6 | TUSQP0404 |
| 38 x 38 x 3 | TUSQP040410G |
| 50 x 50 x 1.6 | TUSQP0504 |
| 50 x 50 x 3 | TUSQP050410G |
| 80 x 80 x 1.6 | TUSQP0804 |
| 80 x 80 x 3 | TUSQP080410G |
| 100 x 100 x 3 | TUSQP100410G |
| 100 x 100 x 5 | TUSQP10048G |
| 150 x 150 x 5 | TUSQP15048G |

RECTANGULAR SECTION TUBE

POLISHED 304s/s **



| Size | |
|---------------|-----------------|
| 50 x 25 x 3 | TUSQP050X025X34 |
| 60 x 40 x 3 | TUSQP060X040X34 |
| 80 x 40 x 3 | TUSQP080X040X34 |
| 100 x 50 x 2 | TUSQP100X050X24 |
| 100 x 50 x 3 | TUSQP100X050X34 |
| 150 x 75 x 5 | TUSQP150X075X54 |
| 150 x 100 x 5 | TUSQP150X100X54 |

** 316 S/S Available on request

FLAT BAR



SOLID ROUND BAR



ANGULAR SECTION



304 s/s THREADED ROD



S/S NUTS & BOLTS



TUBE TOOLS

TUBE CUTTING BLOCK

| Size | Code | |
|-------------|------------|--|
| 25mm / 1" | 9611981070 | |
| 38mm / 1.5" | 9611981071 | |
| 51mm / 2" | 9611981072 | |
| 63mm / 2.5" | 9611981073 | |
| 76mm / 3" | 9611981074 | |
| 101mm / 4" | 9611981075 | |

TUBE CUTTING BLADES TO SUIT GF CUTTERS

| Code | Size | |
|--------|---|--|
| CSI035 | Tube 63mm 64 teeth (designed t/s dairy tube) | |
| | | |
| | | |
| | | |
| | | |


DO YOU HAVE ALL THE RIGHT ANSWERS FOR ORDERING TUBE & FITTINGS ?

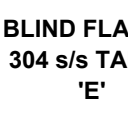
It is recommended the following be used as an approximate guide only.

- 1** All Tube is to be made of a long hole surrounded by metal or plastic.
- 2** All Tube is to be hollow throughout the entire length -do not use holes of different length than the pipe.
- 3** The internal diameter of the tube must not exceed the overall diameter otherwise the hole will be on the outside.
- 4** All tube is to be supplied with nothing in the hole so the product or other stuff can be put inside at a later date.
- 5** All tube should be supplied without rust; this can be more easily applied at the job site.
Note: Some suppliers are now able to supply pre-rusted tube. If available in your area, this product is recommended as it will save a great deal of time on the job site.
- 6** All tube over 150m in length should have the words "Long Tube" clearly painted on each end so people will know it's long tube
- 7** Tube over 3 km in length must also have the words "Long tube" painted in the middle so people will not have to walk the entire length of the tube to determine whether or not it is a long or short length of tube.
- 8** All tube over 150mm in diameter must have the words " Large tube" painted on it so it can not be mistaken for small tube
- 9** Flanges should be used on all tube. Flanges must have holes for bolts quite separate from the big hole in the middle.
- 10** When ordering 90, 45, or 30 degree elbows, be sure to specify right hand or left hand, otherwise you will end up going the wrong way.
- 11** Be sure to specify to your supplier whether you want level, uphill or downhill tube. If you use downhill tube for going uphill the liquid will flow the wrong way.
- 12** All Unions should have either right hand or left hand threads, but do not mix threads. Other wise as the union is being screwed on one tube end, it is being unscrewed at the other .
- 13** Where tube is being installed in a "non-pressure" situation,(eg gravity return, overflow or drain) the word "Top" must be painted in a prominent position so the liquid runs in the bottom of the tube.
- 14** The word "End" showing where the hollow stops and the solid pipe begins shall be clearly marked on all such sections. No length shall have an "End" more than halfway from the middle, nor more than one "end" per length.
- 15** Each tube length must be clearly marked with an arrow denoting direction of flow on each end..
- 16** Tube will be either "Uni-directional" or " Bi-directional".




FLANGES

|  | | BLIND FLANGE 304 s/s TABLE 'D' | BLIND FLANGE 316 s/s TABLE 'D' |
|--|------|--------------------------------------|--------------------------------------|
| NB | INCH | Code | Code |
| 19mm | 3/4" | | |
| 25mm | 1" | FLANG0254BE | FLANG0256BE |
| 38mm | 1.5" | FLANG0404BD | FLANG0406BD |
| 51mm | 2" | FLANG0504BD | FLANG0506BD |
| 63.5mm | 2.5" | FLANG0654BD | FLANG0656BD |
| 76mm | 3" | FLANG0804BD | FLANG0806BD |
| 101mm | 4" | FLANG1004BD | FLANG1006BD |
| 125mm | 5" | FLANG1254BD | FLANG1256BD |
| 150mm | 6" | FLANG1504BD | FLANG1506BD |
| 200mm | 8" | FLANG2004BD | FLANG2006BD |

|  | | BLIND FLANGE 304 s/s TABLE 'E' | BLIND FLANGE 316 s/s TABLE 'E' |
|---|--|--------------------------------------|--------------------------------------|
| | | Code | Code |
| | | FLANG0204BE | FLANG0206BE |
| | | FLANG0254BE | FLANG0256BE |
| | | FLANG0404BE | FLANG0406BE |
| | | FLANG0504BE | FLANG0506BE |
| | | FLANG0654BE | FLANG0656BE |
| | | FLANG0804BE | FLANG0806BE |
| | | FLANG1004BE | FLANG1006BE |
| | | FLANG1254BE | FLANG1256BE |
| | | FLANG1504BE | FLANG1506BE |
| | | FLANG2004BE | FLANG2006BE |

ANSI, DIN, PN16
AND OTHER
FLANGE
STANDARDS
AVAILABLE.

|  | | SLIP ON FLANGE T/S TUBE. 304s/s TABLE D | SLIP ON FLANGE T/S TUBE. 316s/s TABLE D |
|--|-------|--|--|
| NB | INCH | Code | Code |
| 12mm | 1/2" | | |
| 19mm | 3/4" | | |
| 25mm | 1" | FLANG0254SD | FLANG0256SD |
| 32mm | 1.25" | FLANG0324SD | FLANG0326SD |
| 38mm | 1.5" | FLANG0404SD | FLANG0406SD |
| 51mm | 2" | FLANG0504SD | FLANG0506SD |
| 63.5mm | 2.5" | FLANG0654SD | FLANG0656SD |
| 76mm | 3" | FLANG0804SD | FLANG0806SD |
| 101mm | 4" | FLANG1004SD | FLANG1006SD |
| 125mm | 5" | FLANG1254SD | FLANG1256SD |
| 150mm | 6" | FLANG1504SD | FLANG1506SD |
| 200mm | 8" | FLANG2004SD | FLANG2006SD |

|  | | SLIP ON FLANGE T/S TUBE. 304s/s TABLE E | SLIP ON FLANGE T/S TUBE. 316s/s TABLE E |
|---|--|--|--|
| | | Code | Code |
| | | FLANG0154SE | FLANG0156BE |
| | | FLANG0204SE | FLANG0206BE |
| | | FLANG0254SE | FLANG0256SE |
| | | FLANG0324SE | FLANG0326SE |
| | | FLANG0404SE | FLANG0406SE |
| | | FLANG0504SE | FLANG0506SE |
| | | FLANG0654SE | FLANG0656SE |
| | | FLANG0804SE | FLANG0806SE |
| | | FLANG1004SE | FLANG1006SE |
| | | FLANG1254SE | FLANG1256SE |
| | | FLANG1504SE | FLANG1506SE |
| | | FLANG2004SE | FLANG2006SE |

FLANGE
GASKETS
AVAILABLE
FOR ALL SIZES.



Welding Neck Flange



Plate Flange



Slip-On Flange



Blind Flange



Welding Neck Flange



Blind Flange

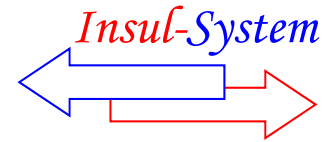


Slip-On Flange



Lap Joint Flange

INSUL-SYSTEM

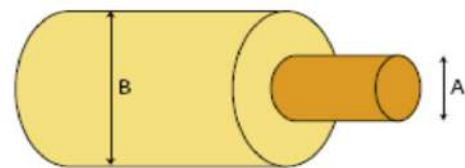


Insul-System is an Australian Made insulated piping system, developed specifically to meet the extremes of the Australian environment. Insul-System is ideal for a multitude of applications, suitable for both hot and cold applications, including such processes as brine lines, Milk, Wine, Beer and beverage product lines, steam feed lines and in fact anywhere temperature loss is costing your business money.

Insul-System is available as standard with stainless steel cores, however this system allows for any other core medium to be used to suit your application. External Cladding is available in galvanised or white, along with installation kits to suit bends, tees and other process services.

| A (mm) | B (mm) | Std Insulation Thickness | Inner Tube wall Thickness | Std Length |
|--------|--------|--------------------------|---------------------------|------------|
| 38.1 | 102 | 32mm | 1.6 | 6m |
| 50.8 | 102 | 26mm | 1.6 | 6m |
| 50.8 | 127 | 38mm | 1.6 | 6m |
| 76.1 | 127 | 25mm | 1.6 | 6m |
| 76.1 | 152 | 38mm | 1.6 | 6m |
| 101 | 176 | 38mm | 1.6 | 6m |

Polyurethane Insulation : 65kg p/m³
 Refrigeration insulation: 75mm Thick
 K Factor: .22 W/mK



MATRIX Process Solutions can also site install Insul-System anywhere in Australia, with the ability to retro-install to your existing installation if required.

Other components include:

- Spiral casing (any colour)
- Bend, join and tee installation kits
- Polyurethane Injection
- Pre insulated fittings. Bends, tee's, etc.

LKB BUTTERFLY VALVES



| | LKB BUTTERFLY VALVE 304 s/s EPDM | LKB BUTTERFLY VALVE 316 s/s EPDM | LKB-F BUTTERFLY VALVE 304 s/s EPDM | LKB-F BUTTERFLY VALVE 316 s/s EPDM |
|-------------|----------------------------------|----------------------------------|------------------------------------|------------------------------------|
| Size | | | | |
| 25mm / 1" | 9611444500 | 9611444501 | 9612400031 | 9612402731 |
| 38mm / 1.5" | 9611444510 | 9611444511 | 9612400032 | 9612402732 |
| 51mm / 2" | 9611444520 | 9611444521 | 9612400033 | 9612402733 |
| 63mm / 2.5" | 9611444530 | 9611444531 | 9612400034 | 9612402734 |
| 76mm / 3" | 9611444540 | 9611444541 | 9612400035 | 9612402735 |
| 101mm / 4" | 9611414550 | 9611414551 | 9612400036 | 9612402736 |
| 125mm / 5" | 9612075045** | 9612075046** | 9612400008** | 9612402708** |
| 152mm / 6" | 9611414571 | 9611414572 | 9612400009** | 9612402709** |

** Available in Metric DN dimensions only.

| LKB Ultrapure 316Ls/s EPDM. 0.5ra ASMI BPE | LKB Ultrapure 316Ls/s EPDM. 0.4raEP ASME BPE |
|--|--|
| | |
| 9613858201 | 9613585207 |
| 9613858202 | 9613585208 |
| 9613858203 | 9613585209 |
| 9613858204 | 9613585210 |
| 9613858205 | 9613585211 |
| 9613858206 | 9613585212 |
| SEALS: FDA & USP Class VI. Supplied with Alfa Laval Q Doc. | |



BUTTERFLY VALVE HANDLES

| | LKB Handle 2 Position | LKB Handle 4 Position | LKB Regulating handle 90 Deg | LKB Handle 2 Position to suit indication unit | LKB Multi Position handle Short (150mm) | LKB Multi Position handle Long (200mm) |
|-------------|-----------------------|-----------------------|------------------------------|---|---|--|
| Size | | | | | | |
| 25mm / 1" | 9612045001 | 9612045002 | 9612047401 | 9612047501 | 9612592804 | |
| 38mm / 1.5" | | | | | | |
| 51mm / 2" | | | | | | |
| 63mm / 2.5" | | | | | | |
| 76mm / 3" | 9612045101 | 9612045102 | 9612047402 | 9612047502 | 9612592805 | |
| 101mm / 4" | 9612045901 | 9612045902 | 9612047403 | 9612047503 | 9612592806 | 9612592803 |
| 125mm / 5" | | 9612078201 | | | | |
| 150mm / 6" | | 9612079101 | | | | |

ACTUATOR MOUNTING BRACKETS

| | MOUNTING BRACKET t/s Ø85mm Actuator |
|-------------|-------------------------------------|
| Size | |
| 25 - 63mm | 9611416470 |
| 76 - 101mm | 9611416480 |
| 150mm | 9611416640 |

| | MOUNTING BRACKET t/s Ø133mm Actuator |
|-------------|--------------------------------------|
| Size | |
| 100-125mm | 9612285301 |
| 150mm | 9612285401 |

| | MOUNTING BRACKET t/s Unique Control actuator |
|-------------|--|
| Size | |
| 25 - 63mm | 9614090101 |
| 76 - 101mm | 9614090103 |
| 150mm | 9614090104 |



LKLA /-T ACTUATORS

| | LKLA 85mm Normally CLOSED | LKLA 85mm Normally OPEN | LKLA 85mm / AIR | AIR | LKLA-T 85mm Normally CLOSED | LKLA-T 85mm Normally OPEN | LKLA-T 85mm AIR / AIR |
|---------|---|---|---|-----|---|---|---|
| |  |  |  | |  |  |  |
| Size | | | | | | | |
| 25-63mm | 9611416301 | 9611416304 | 9611417491 | | 9612194002 | 9612194005 | 9612194102 |
| 76mm | 9611416302 | 9611416305 | 9611417492 | | 9612194003 | 9612194006 | 9612194103 |
| 101mm | 9611416306 | 9611416307 | 9611417493 | | 9612194007 | 9612194008 | 9612194104 |
| 125mm | | | 9611417502 | | | | 9612194202 |
| 150mm | | | 9611417500 | | | | 9612194201 |

| | LKLA 133mm Normally CLOSED | LKLA 133mm Normally OPEN | LKLA 133mm AIR / AIR | LKLA-T 133mm Normally CLOSED | LKLA-T 133mm Normally OPEN | LKLA-T 133mm AIR / AIR |
|-------|--|--|--|--|--|--|
| |  |  |  |  |  |  |
| Size | | | | | | |
| 101mm | 9612271306 | 9612271307 | 9612271308 | 9612374906 | 9612374907 | 9612374908 |
| 125mm | 9612271311 | 9612271312 | 9612271313 | 9612374911 | 9612374912 | 9612374913 |
| 150mm | 9612271316 | 9612271317 | 9612271318 | 9612374916 | 9612374917 | 9612374918 |

UNIQUE CONTROL ACTUATORS

| | Digital 24V DC | AS-Interface v2.1, 31 node | AS-Interface v3.0, 62 node |
|----------|---|---|---|
| |  |  |  |
| FUNCTION | | | |
| C2 / NC | 9614067209 | 9614067201 | 9614067221 |
| C2 / NO | 9614067210 | 9614067202 | 9614067222 |

* Actuator only. Valve supplied separately.

LKB FITTED WITH KINETROL ACTUATORS

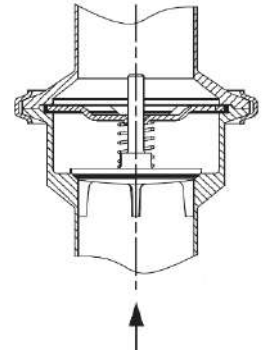
| Size |  | | Options include: |
|-------------|--|--|-------------------------|
| 25mm / 1" | | | Air / Air actuators |
| 38mm / 1.5" | | | Spring return Actuators |
| 51mm / 2" | | | Positioner |
| 63mm / 2.5" | | | Feed back sensors |
| 76mm / 3" | | | |
| 101mm / 4" | | | |
| 150mm / 6" | | | |

NON RETURN VALVES



| | LKC-2 SANITARY NRV 304 s/s | LKC-2 SANITARY NRV 316 s/s |
|-------------|-------------------------------|-------------------------------|
| | | |
| Size | | |
| 25mm / 1" | 9612220001 | 9612220007 |
| 38mm / 1.5" | 9612220002 | 9612220008 |
| 51mm / 2" | 9612220003 | 9612220009 |
| 63mm / 2.5" | 9612220004 | 9612220010 |
| 76mm / 3" | 9612220005 | 9612220011 |
| 101mm / 4" | 9612220006 | 9612220012 |

| LKC-Ultra Pure NRV 316 s/s c/w Q Doc. (3.1B) 0.8um in / out | LKC-Ultra Pure NRV 316L s/s c/w Q Doc.(3.1B) 0.5um in/0.8um out |
|--|--|
| | |
| 9613484301 | 9613481901 |
| 9613484302 | 9613481902 |
| 9613484303 | 9613481903 |
| 9613484304 | 9613481904 |
| 9613484305 | 9613481905 |
| 9613484306 | 9613481906 |



SPRING FREE NON RETURN VALVES



EDF NON RETURN VALVE

| Code | Size ASME BPE |
|-------------------|---------------|
| E1 01-2TT1610MMN1 | 12mm / 1/2" |
| E1 03-4TT1610MMN1 | 20mm / 3/4" |
| E1 01-0TT1610MMN1 | 25mm / 1" |
| E1 11-2TT1610MMN1 | 38mm / 1.5" |
| E1 02-0TT1610MMN1 | 51mm / 2" |
| E1 21-2TT1610MMN1 | 63mm / 2.5" |
| E1 03-0TT1610MMN1 | 76mm / 3" |
| E1 04-0TT1610MMN1 | 101mm / 4" |



| Code | Size DIN11850 |
|------------------|---------------|
| E10010TT1610MMN1 | DN10 |
| E10015TT1610MMN1 | DN15 |
| E10025TT1610MMN2 | DN25 |
| E10040TT1610MMN3 | DN40 |
| E10050TT1610MMN4 | DN50 |
| E10065TT1610MMN5 | DN65 |
| E10080TT1610MMN6 | DN80 |
| E10100TT1610MMN7 | DN100 |



MATERIALS

Body valve / Flanges: AISI304, **AISI316L***
Shutter: **DUPLEX**

SURFACE FINISHING

Internal Ra≤0.4EP, Ra≤0.4, Ra≤0.8EP, **Ra≤0.8***
External Ra≤0.4EP, Ra≤0.4, Ra≤0.8EP, Ra≤0.8, **Ra≤3.2***

ELASTOMERS

EPDM, **NBR***, FPM (Viton), Silicon, FEP

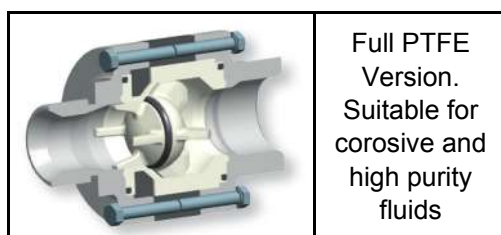
TECHINAL DATA

The differential pressure required to open the valve when installed in a vertical pipe is about 6 kPa (0.06bar). During operation the pressure difference to keep open the valve is approximately 3 kPa (0.02 bar)

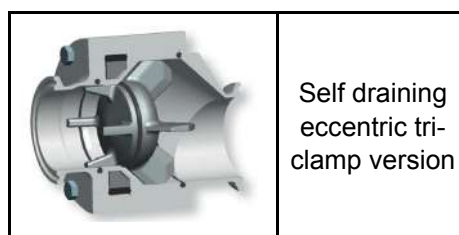
Pressure Max: 1600kPa (16 Bar)
Temperature Max: 220°C
Temperature Min: -10°C

Optional connection standards.

Welding **DIN 11850***, DIN 11851, **ASME-BPE***, ISO 1127, SMS
Tri-Clamp ASME-BPE, ISO1127, SMS, DIN32676



Full PTFE
Version.
Suitable for
corosive and
high purity
fluids



Self draining
eccentric
tri-clamp
version



Wafer Non
return valve.

* Standard build option. All else on request.

PRESSURE RELIEF VALVES

Pressure Relief Valves (PRVs) come pre set with the to relieve at a nominated pressure. All valves can be manually adjusted later if desired


SPRING OPTIONS

| | PSI | kPa | Bar |
|---------------|---------|----------|------------|
| Light | 25-50 | 172-345 | 1.7 - 3.4 |
| Medium | 50-100 | 345-690 | 3.4 - 6.9 |
| Heavy | 100-150 | 690-1035 | 6.9 - 10.3 |

Special pressure optins available on request.

Elastomer options

Teflon, Viton, EPDM, Nitrile, Silicone

| | Adjustable PRV | Adjustable PRV c/w Manual Override | Adjustable PRV c/w Pneumatic Override |
|-------|---|---|---|
| |  |  |  |
| Size | | | |
| 12mm | PRV012** | | |
| 18mm | PRV018** | | |
| 25mm | PRV025 | PRV025MO | PRV025PO |
| 38mm | PRV040 | PRV040MO | PRV040PO |
| 51mm | PRV050 | PRV050MO | PRV050PO |
| 63mm | PRV065 | PRV065MO | PRV065PO |
| 76mm | PRV080 | PRV080MO | PRV080PO |
| 101mm | PRV100 | PRV100MO | PRV100PO |

Supplied as standard with Tri-Clamp connections**



|  |  |  |  |
|--|--|--|--|
| Max Flow | Model | Connection | Relief Meathod |
| 130 hl/h | RV 130 | ø1 1/4" BSP | Polyethylene ball |
| 400 hl/h | RV 400 | ø1 1/4" BSP | Polyethylene ball |
| 400 hl/h | RV 400A | ø1 1/2" BSP | Polyethylene ball |
| 800 hl/h | RV 800 | ø 2" BSP | Polyethylene ball |
| 300 hl/h | RV 300 | ø60mm weld | Oil Bath |
| 800 hl/h | RV 800 | ø102mm weld | Oil Bath |



PRESSURE & VACUUM RELIEF VALVE

In terms of the EC pressure equipment directive 97/23/EC, vacuum pressure relief valves are not considered as security devices and do not have any type of examination certificates

4" valve with clamp connection, fitted with manual forced opening device

Vacuum: 30 mbar

Pressure relief: 0.2 to 2 bar, according to spring

No jamming thanks to the PTFE plug and silicone seal

| Pressure | | 2" Clamp | 2 1/2" Clamp | 4" Clamp |
|----------|------|--------------|--------------|--------------|
| Bar | PSI | | | |
| 0.2 | 2.8 | TU051A16102 | TU063A16102 | TU101A16102 |
| 0.5 | 7 | | | TU101A16105 |
| 0.7 | 9.8 | TU051A16107 | TU063A16107 | |
| 1 | 14 | TU051A16110 | TU063A16110 | TU101A16110 |
| 1.2 | 16.8 | | | |
| 1.3 | 18.2 | | | TU101A16113 |
| 1.4 | 19.6 | TU051A16114 | TU063A16114 | |
| 1.7 | 23.8 | | | TU101A16117 |
| 1.8 | 25.2 | TU051A16118 | TU063A16118 | |
| 2 | 28 | | | TU101A16120 |
| 2.5 | 35 | TU051A16125 | TU063A16125 | |
| 2.75 | 38.5 | | | TU101A16127 |
| 3 | 42 | | | |
| Vacuum | | | | |
| 0.03 | 0.42 | Not Variable | Not Variable | Not Variable |



SANITARY VALVES



UNIQUE SSV



Standard Plug Setup



Aseptic Plug Setup

Complete modularity
Simple service parts.



Tank Outlet Valves



Tangential Outlet Valves



Manually Operated / Manual Regulating Valves

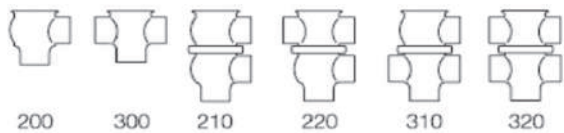


Y-Body Valves

Available in sizes;

25mm, 38mm, 51mm, 63mm, 76mm, 101mm

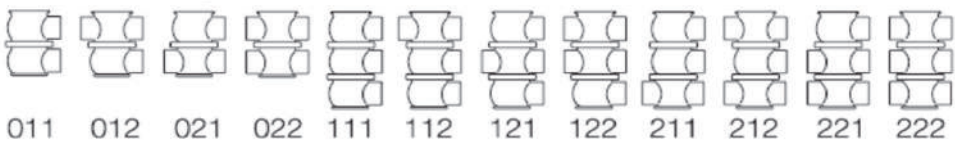
Valve Body Combinations



Technical Data

Max. product pressure (depending on valve specifications)
Min. Product pressure
Temperature range
Air pressure

1000 kPa (10 bar)
Full Vacuum
-10C to +140C (EPDM)
500 - 700 kPa (5 to 7 bar)



Shut-off

Change-over

Shut-off Reverse Acting

Change-over Reverse Acting





UNIQUE SSSV

1/2" & 3/4" ACTUATED SMALL SINGLE SEAT VALVES

OPTIONS

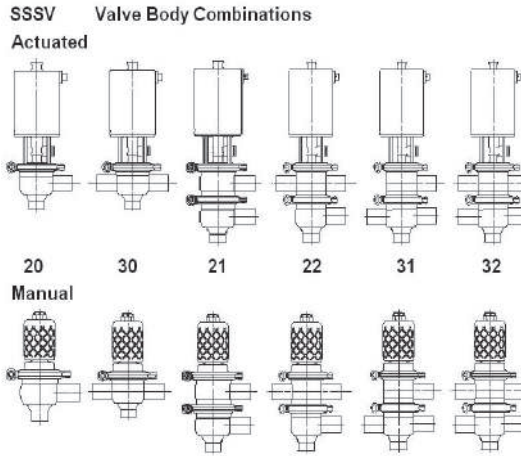
- Normally Open
- Normally Closed

SIZE Range:

- 1/2" (12mm)
- 3/4" (18mm)

ELASTOMERS:

- EPDM (std), FPM, HNBR



LKAP 1" SINGLE SEAT VALVE

LKAP 1" SINGLE SEAT VALVE

| Code | Size | Body | Posi. | Elast. |
|------------|------|------|-------|--------|
| 3139531319 | 25mm | 20 | N/C | EPDM |
| 3139531311 | 25mm | 20 | N/C | NBR |
| 3139531411 | 25mm | 30 | N/C | EPDM |
| 3139531511 | 25mm | 30 | N/C | NBR |
| 3139531611 | 25mm | 20 | N/O | EPDM |
| 3139531711 | 25mm | 20 | N/O | NBR |



SCANDI BREW MINI FLOW VALVE

6 / 8mm SINGLE SEAT GAS & LIQUID VALVES

OPTIONS

- Manual
- Pneumatic Actuation

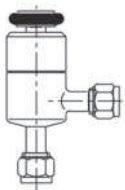
SIZE Range:

- 6mm - 8mm Compression fittings

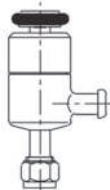
ELASTOMERS:

- EPDM (std), PTFE

MAX PRODUCT PRESSURE: 6 Bar



Drain valve with fittings



Drain valve with fittings/Clip-On






SANITARY REGULATING VALVES

UNIQUE SSV / SSV-RF MANUAL REGULATING VALVE


| Code | Size | m3/Hr |
|-------------|-------|-------|
| *9614291601 | 38mm | 11 |
| 9613320115 | 38mm | 14 |
| 9613320116 | 38mm | 44 |
| 9613320117 | 51mm | 73 |
| 9613320118 | 63mm | 106 |
| 9613320119 | 76mm | 171 |
| 9613320120 | 101mm | 246 |



*SSV-RF

UNIQUE RV-ST REGULATING VALVE

| SIZE | Kv value, m3/Hr |
|---------|-----------------|
| 38mm | 14, 16, 25, 44 |
| 51mm | 9, 34, 52, 75 |
| 63.5mm | 27, 107 |
| 76.1mm | 59, 101, 172 |
| 101.6mm | 125, 164, 246 |




UNIQUE RV-P ELECTRO PNEUMATIC MODULATING VALVE (n/c)

| Code | Size |
|------------|----------------|
| 9615223111 | 38mm Kv 0.5E |
| 9615223112 | 38mm Kv 1 E |
| 9615223113 | 38mm Kv 2 E |
| 9615223114 | 38mm Kv 4 E |
| 9615223115 | 38mm Kv 8 E |
| 9615223116 | 38mm Kv 16 E |
| 9615223117 | 51mm Kv 32 L |
| 9615223118 | 63mm Kv 64 L |
| 9615223119 | 76mm Kv 75 L |
| 9615223120 | 101mm Kv 110 L |




UNIQUE RV-P ELECTRO PNEUMATIC MODULATING VALVE (n/o)


| Code | Size |
|------------|----------------|
| 9615223101 | 38mm Kv 0.5E |
| 9615223102 | 38mm Kv 1 E |
| 9615223103 | 38mm Kv 2 E |
| 9615223104 | 38mm Kv 4 E |
| 9615223105 | 38mm Kv 8 E |
| 9615223106 | 38mm Kv 16 E |
| 9615223107 | 51mm Kv 32 L |
| 9615223108 | 63mm Kv 64 L |
| 9615223109 | 76mm Kv 75 L |
| 9615223110 | 101mm Kv 110 L |



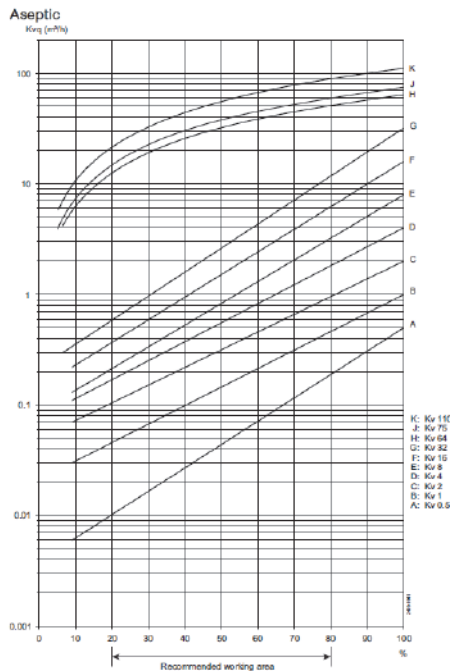
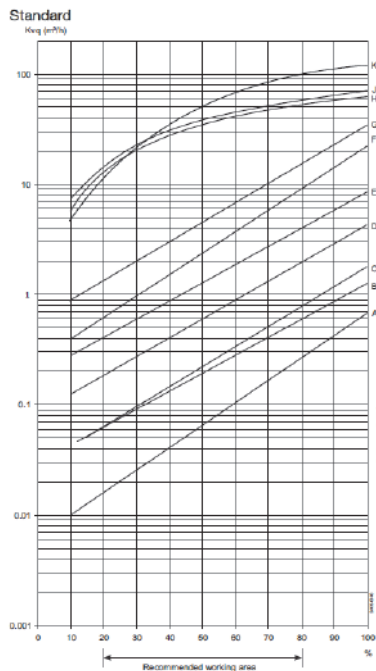
UNIQUE RV-P ELECTRO PNEUMATIC ASEPTIC MODULATING VALVE (n/c)

| Code | Size | ASEPTIC |
|------------|----------------|---|
| 9615223311 | 38mm Kv 0.5E |  |
| 9615223312 | 38mm Kv 1 E | |
| 9615223313 | 38mm Kv 2 E | |
| 9615223314 | 38mm Kv 4 E | |
| 9615223315 | 38mm Kv 8 E | |
| 9615223316 | 38mm Kv 16 E | |
| 9615223317 | 51mm Kv 32 L | |
| 9615223318 | 63mm Kv 64 L | |
| 9615223319 | 76mm Kv 75 L | |
| 9615223320 | 101mm Kv 110 L | |

UNIQUE RV-P ELECTRO PNEUMATIC ASEPTIC MODULATING VALVE (n/o)

| Code | Size | ASEPTIC |
|------------|----------------|---|
| 9615223301 | 38mm Kv 0.5E |  |
| 9615223302 | 38mm Kv 1 E | |
| 9615223303 | 38mm Kv 2 E | |
| 9615223304 | 38mm Kv 4 E | |
| 9615223305 | 38mm Kv 8 E | |
| 9615223306 | 38mm Kv 16 E | |
| 9615223307 | 51mm Kv 32 L | |
| 9615223308 | 63mm Kv 64 L | |
| 9615223309 | 76mm Kv 75 L | |
| 9615223310 | 101mm Kv 110 L | |

UNIQUE RV-P SELECTION CHART



Pressure Drop Calculation

The Kv designation is the flow rate in m3/h at a pressure drop of 1 bar when the valve is fully open (water at 20°C or similar liquids). To select the Kv value it is necessary to calculate the Kvq value using the following formula:

$$Kv_q = \frac{Q}{\sqrt{\Delta P}}$$

Where:

- Kvq = Kv Value at specific flow and specific pressure drop
- Q = Flow Rate (m3/Hr)
- ΔP = Pressure drop over valve (bar)



SANITARY REGULATING VALVES

CPM-I PRESSURE REGULATING VALVE

| Code | Size |
|------------|-----------|
| 9612305501 | Kv 23 |
| 9612305503 | Kv 2 / 15 |
| 9612305517 | Kv 7 |
| 3135661411 | Kv 60 |

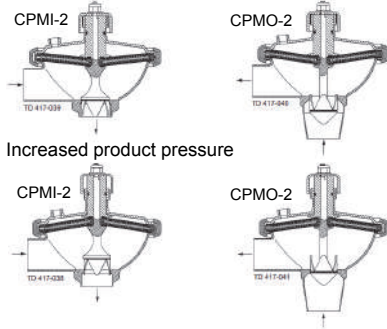


CPM-O PRESSURE REGULATING VALVE

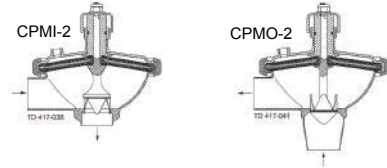
| Code | Size |
|------------|-----------|
| 9612305502 | Kv 23 |
| 9612305504 | Kv 2 / 15 |
| 9612305518 | Kv 9 |



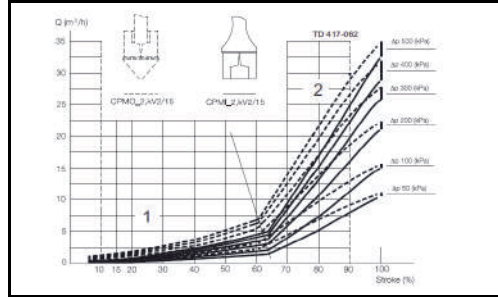
Reduced product pressure



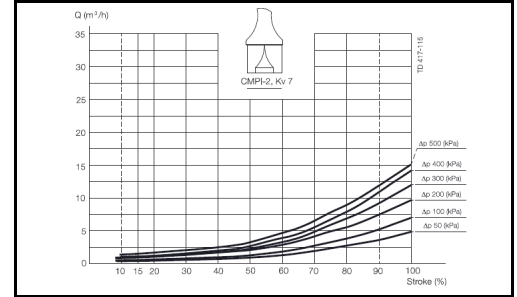
Increased product pressure



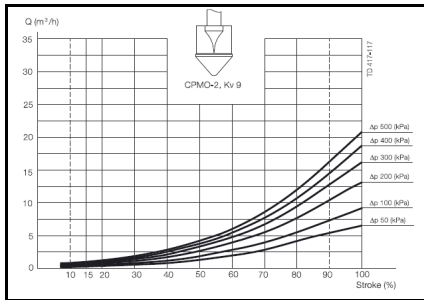
CPM-2 KV 2/15



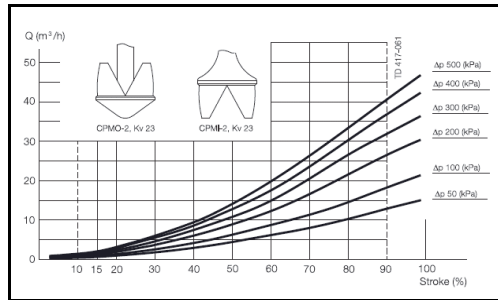
CPMI-2 KV7



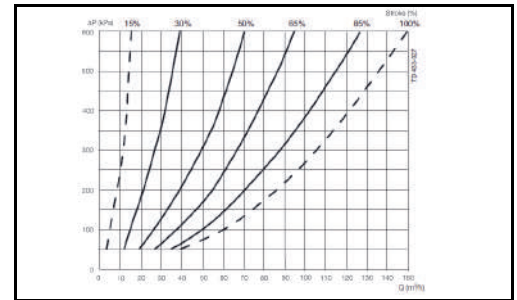
CPMO-2 KV 9



CPM-2 KV23



CPMI-D KV 60



SCANDI BREW CO₂ REGULATING VALVES

SCANDI BREW CO₂ House



The SCANDI BREW® CO₂ House valve is to be used in combination with the Anti Vacuum Valve. The purpose of the valve is to control the working pressure in tanks during increased pressure.

| Size | Pressure range |
|------|----------------|
| 51mm | 0.2-3 Bar |
| 76mm | 0.2-3 Bar |

SCANDI BREW Pressure Exhaust Valve



The Alfa Laval SB Pressure Exhaust Valve is a regulating valve that automatically reduces the working pressure in brewery, food, dairy and beverage process tanks as the pressure in the vessel increases.

| Size | Pressure range |
|------|----------------|
| 38mm | 1-4 Bar |
| 51mm | 0.5-4 Bar |

SCANDI BREW SELF CLEANING CO₂ VALVE

Combined gas escape/supply valve to be used in tank top systems and other applications for easy gas flow, allowing venting as well as pressurizing of vessel through the valve. Partly-closed for CIP liquid to be cleanable and self-draining.

Working Principle

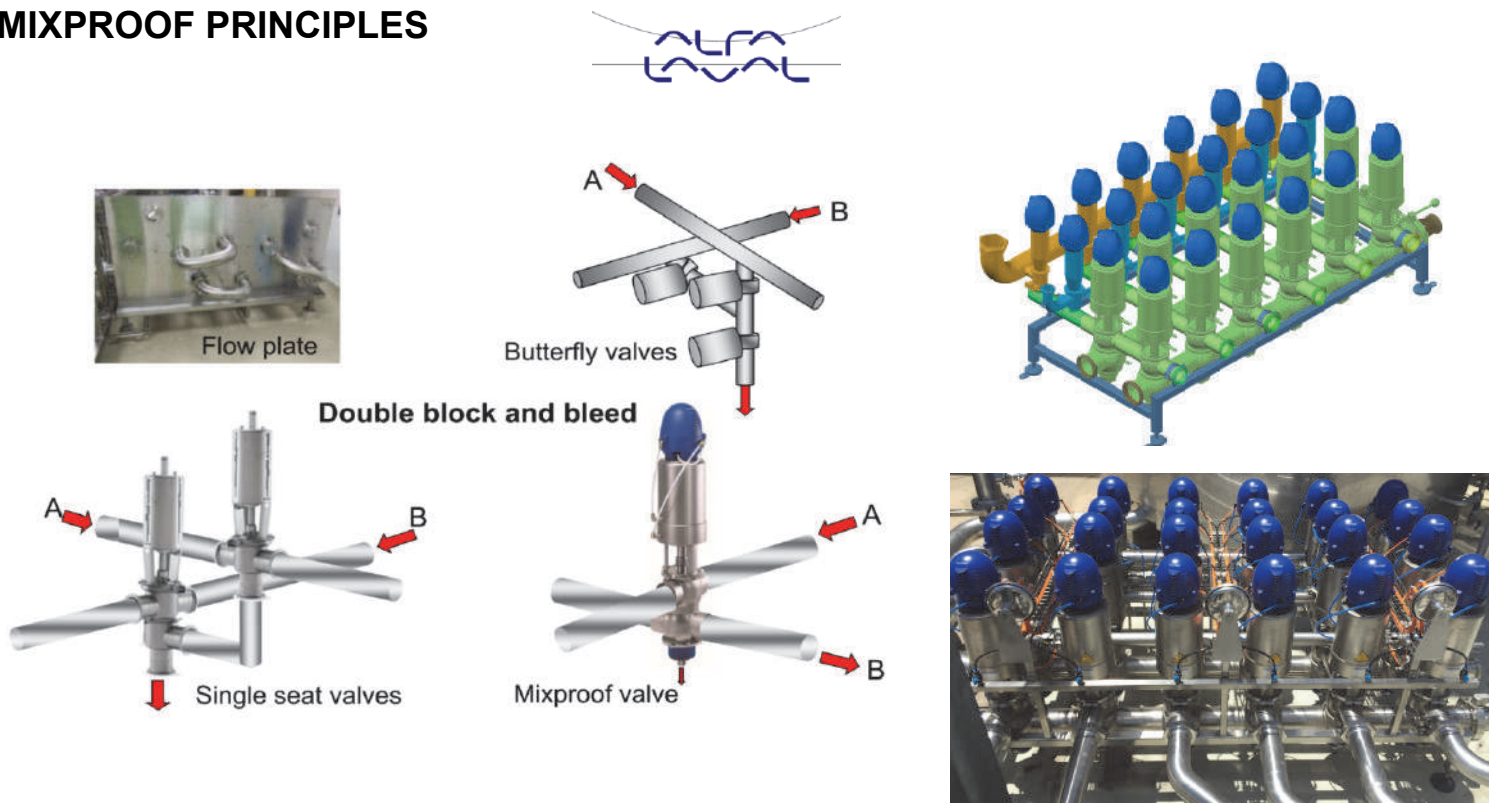
The internal polypropylene valve body is force opened by a stainless steel spring, thus allowing full gas capacity through the valve in both directions. By introducing CIP flow against the spring force, the internal valve body will be moved to a closed position.

The CIP liquid will close the valve but a special drilling of the valve body ensures cleaning of all valve parts. Depending on valve size, this CIP flow is approx. 800-900 l/h.

| SIZE | Flow (m ³ /hr) |
|-------------|---------------------------|
| DN25 / 1" | 25 |
| DN40 / 1.5" | 50 |
| DN50 / 2" | 150 |
| DN65 / 2.5" | 250 |
| DN80 / 3" | 450 |
| DN100 / 4" | 600 |



MIXPROOF PRINCIPLES



SMP-BC DOUBLE SEAL MIXPROOF VALVES

The Basic Choice in Mixproof valves.

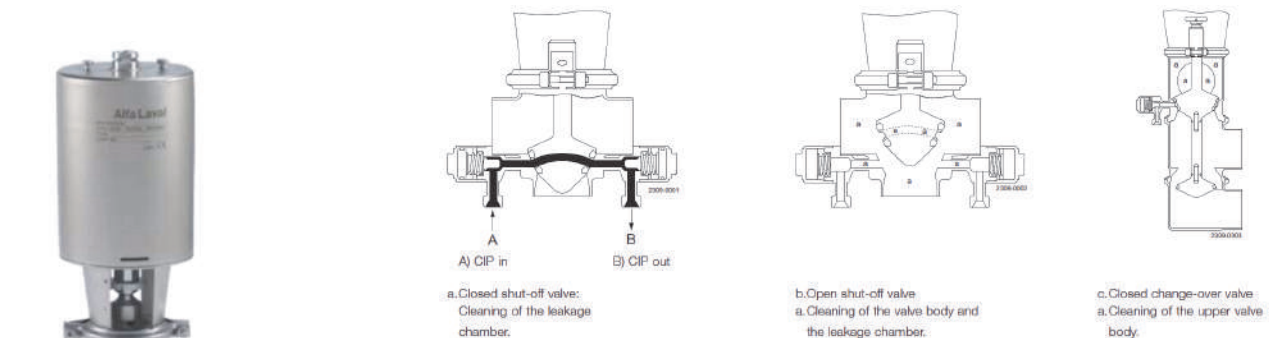
SMP-BC is a sanitary pneumatic seat valve, designed for safety and leak detection when two different products flow through only one valve. The valve is often used as a part in CIP return lines or other systems not experiencing pressure spikes offering leakage detection for greater safety.

Working principle

SMP-BC is remote-controlled by means of compressed air. The valve is a normally closed (NC) valve.

The valve is fitted with two small pneumatic normally open (NO) valves, a detecting valve and a CIP-valve.

The valve plug (the upper plug in a change-over valve) has two seals, forming a leakage chamber under atmospheric pressure between them. Leaking product flows into the leakage chamber and is discharged through the detecting valve. SMP-BC can be cleaned by CIP by supplying compressed air to the actuator (see fig. 1). During cleaning of the valve, flow pattern against the closing direction of the valve plug makes SMP-BC insensitive to water hammer.

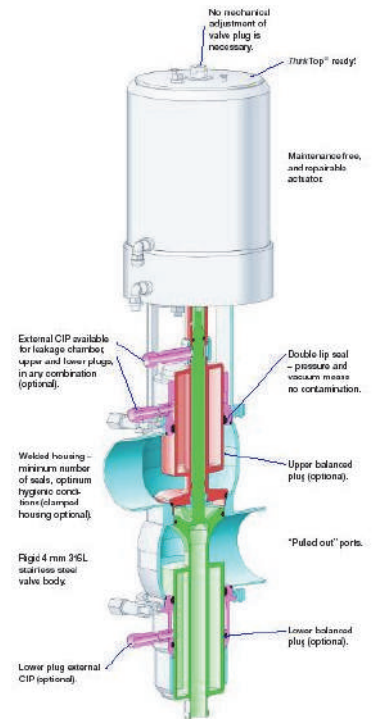


| Size | Code | Code | Code | Code |
|-------|------------|------------|------------|------------|
| 38mm | 9612364801 | 9612364811 | 9612364901 | 9612364911 |
| 51mm | 9612364802 | 9612364812 | 9612364902 | 9612364912 |
| 63mm | 9612364803 | 9612364813 | 9612364903 | 9612364913 |
| 76mm | 9612364804 | 9612364814 | 9612364904 | 9612364914 |
| 101mm | 9612364805 | 9612364815 | 9612364905 | 9612364915 |





UNIQUE MIXPROOF VALVES



The Unique Mixproof Valve from Alfa Laval is the latest in Mixproof technology. Offering complete process flexibility, built to your requirements.

Available in;

Sizes 38mm, 51mm, 63mm, 76mm, 101mm, 125mm, 150mm

Unique Features include:

Mixed Body Sizes.

i.e.: 101mm lower body / 51mm Upper body

Balanced or Un-Balanced plug

- You can choose to have a balanced lower plug
- You can choose to have a balanced Upper plug
- You can choose to have Both Upper & Lower plugs balanced.
- Or both Unbalanced.

Independent seat Lift

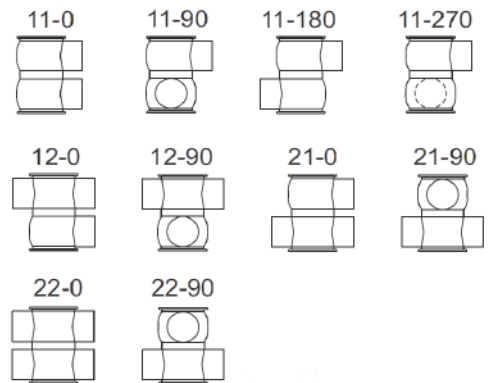
- You can choose to have seat lift of the Lower plug only
- You can choose to have seat lift of the Upper plug only
- You can choose to have seat lift of both Upper & Lower plugs.
- Or no seat lift at all.

Spiral Clean

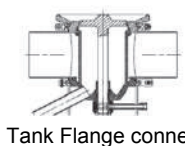
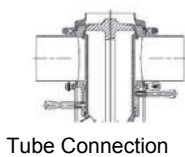
The unique Spiral clean system can be incorporated on the upper or lower plugs
It can also be incorporated between the plugs in the leakage chamber

Elastomers Options

EPDM, FPM, HNBR, NBR



TANK OUTLET VERSION



HORIZONTAL TANK VALVE (Unique HT)



LARGE PARTICULATE VALVE (Unique LP)




Upto 45mm pieces.
Or high viscosity.

ThinkTop® Basic





THINKTOP BASIC DIGITAL 8-30 VDC PNP/NPN

| Code | # Sol | Type | |
|------------|-------|------|---------|
| 9613419801 | 0 | | PNP/NPN |
| 9613419802 | 1 | 3/2 | PNP/NPN |
| 9613419803 | 2 | 3/2 | PNP/NPN |
| 9613419804 | 3 | 3/2 | PNP/NPN |
| 9613419805 | 1 | 5/2 | PNP/NPN |
| | | | |
| | | | |





THINKTOP BASIC INTRINSICALLY SAFE

| Code | # Sol | Type | |
|------------|-------|---|---------|
| 9613468801 | 0 | | PNP/NPN |
| 9613468810 | 1 | 3/2 | PNP/NPN |
| 9613468811 | 2 | 3/2 | PNP/NPN |
| | | | |
| | |  II 2G EEx ia IIC T6 | |




THINKTOP BASIC AS-Interface

| Code | # Sol | Type | |
|------------|-------|--|--|
| 9613484401 | 0 | | |
| 9613484402 | 1 | 3/2 | |
| 9613484403 | 2 | 3/2 | |
| 9613484404 | 3 | 3/2 | |
| 9613484405 | 1 | 5/2 | |
| | |  62 Node (Version 3.0 r1) 29.5-31.6 VDC | |



Thinktop D30 Digital


| Code | Solenoids | Voltage | |
|------------|-----------|---------|--|
| 9614191101 | 1 | 24vDC | |
| | | | |
| | | | |
| | | | |
| | | | |




ThinkTop®


THINKTOP DIGITAL 8-30 VDC PNP/NPN

| Code | # Sol | Type | |
|------------|-------|----------|---------|
| 9612578901 | 0 | | PNP/NPN |
| 9612578902 | 1 | 3/2 | PNP/NPN |
| 9612578903 | 2 | 3/2 | PNP/NPN |
| 9612578904 | 3 | 3/2 | PNP/NPN |
| 9612578905 | 1 | 5/2 | PNP/NPN |
| 9612578948 | 1, 1 | 5/2, 3/2 | PNP/NPN |
| 9612578949 | 1, 2 | 5/2, 3/2 | PNP/NPN |
| | | | |





THINKTOP DEVICENET 11-25 VDC

| Code | # Sol | Type | |
|------------|-------|--|--|
| 9612639601 | 0 | | |
| 9612639602 | 1 | 3/2 | |
| 9612639603 | 2 | 3/2 | |
| 9612639604 | 3 | 3/2 | |
| 9612639605 | 1 | 5/2 | |
| | |  | |





THINKTOP ASI-INTERFACE 29.5-31.6 VDC

| Code | # Sol | Type | |
|------------|-------|--|--|
| 9612615511 | 0 | | |
| 9612615512 | 1 | 3/2 | |
| 9612615513 | 2 | 3/2 | |
| 9612615514 | 3 | 3/2 | |
| 9612615515 | 1 | 5/2 | |
| | |  62 Node (Version 3.0 r1) 29.5-31.6 VDC | |



THINKTOP ASI-INTERFACE 29.5-31.6 VDC

| Code | # Sol | Type | |
|------------|-------|--|--|
| 9612615501 | 0 | | |
| 9612615502 | 1 | 3/2 | |
| 9612615503 | 2 | 3/2 | |
| 9612615504 | 3 | 3/2 | |
| 9612615505 | 1 | 5/2 | |
| | |  32 Node (Version 2.1) 29.5-31.6 VDC | |



THINKTOP IR KEYPAD

| Code | |
|------------|---|
| 9611993526 |   |
| | |
| | |
| | |

Thinktop Adaptor for SSSV


| Code | Size | |
|------------|-----------|---|
| 9612947601 | 12.5-19mm |  |
| | | |
| | | |
| | | |



IndiTop®


INDI Top 8-30vDC/AC, PNP/NPN. 2 position feedback

| Code | Cable | |
|------------|-------|---------|
| 9613418101 | 5m | PNP/NPN |
| 9613418102 | 10m | PNP/NPN |
| | | |
| | | |
| | | |
| | | |



INDI Top 8-30vDC/AC, PNP or NPN. M12 Plug

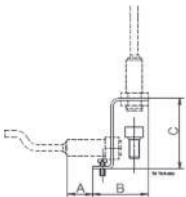
| Code | Cable | |
|------------|---------------|-----|
| 9613418103 | 0.5m M12 Plug | NPN |
| 9613418104 | 0.5m M12 Plug | PNP |
| | | |
| | | |
| | | |
| | | |



BRACKET SYSTEMS FOR INDICATION SENSORS


LKAP Bracket system

| Code | Sensor | |
|------------|--------|---------------------|
| 9612498901 | 12mm | SENSOR NOT INCLUDED |
| | | |
| | | |
| | | |
| | | |



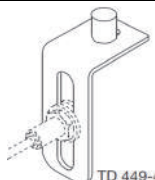
Bracket system for SMP-SC, SMP-BC, SMP-BCA, SMP-TO, LKLA-T (LKB), Koltek MH, SBV and Unique.

| Code | Sensor | |
|------------|--------|---------------------|
| 9612411202 | 12mm | SENSOR NOT INCLUDED |
| | | |
| | | |
| | | |
| | | |



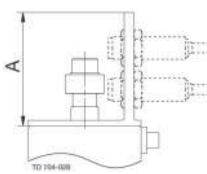
Bracket system for external sensor on Unique

| Code | Sensor | |
|------------|--------|---------------------|
| 9613095503 | 12mm | SENSOR NOT INCLUDED |
| | | |
| | | |
| | | |
| | | |



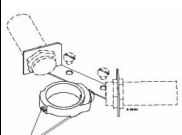
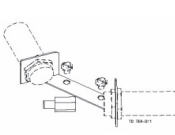
SSSV Bracket system

| Code | Sensor | |
|------------|--------|---------------------|
| 9612947703 | 12mm | SENSOR NOT INCLUDED |
| | | |
| | | |
| | | |
| | | |



LATERALLY MOUNTED UNIT FOR LKLA (LKB) / HANDLE 1.1

Bracket system to suit inductive prox sensors.

| 12mm sensors | 18mm Sensors |
|---|---|
|  |  |


| Size | | |
|--------------------------|------------|------------|
| 25-101mm (85 Actuator) | 9611417764 | 9611417765 |
| 101-150mm (85 Actuator) | 9611417767 | 9611417768 |
| 101-150mm (133 Actuator) | 9612552901 | 9615552902 |

| Micro Switch with 2 Switch | Inductive Prox Switch |
|----------------------------|-----------------------|
| 24 - 55 (110) VDC/VAC | 10-36 VDC PNP. |




| Size | | |
|--------------------------|------------|------------|
| 25 - 101mm (85 Actuator) | 9612510702 | 9611995750 |
| 101-150mm (133 Actuator) | 9612510902 | 9611995748 |

Complete positioner 8694 without display

| Code | Valve type | |
|------------|------------|---|
| 9611995266 | SSV Valve |  |
| 9611995267 | LKLA-T | |
| | | |
| | | |
| | | |

Positioner for single acting actuators only. LKLA-T 85 n/c and SSV actuators (except long Complete positioner 8694 with display

| Code | Valve type | |
|------------|------------|---|
| 9611995268 | SSV Valve |  |
| 9611995269 | LKLA-T | |
| | | |
| | | |
| | | |

LIAG VALVES & PRODUCT RECOVERY SYSTEMS

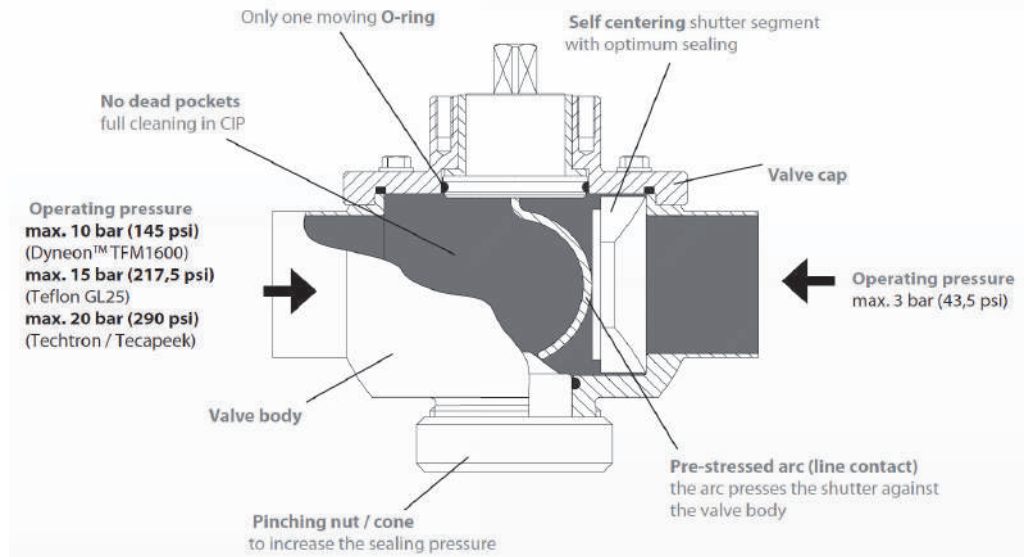


LAEUFER INTERNATIONAL AG

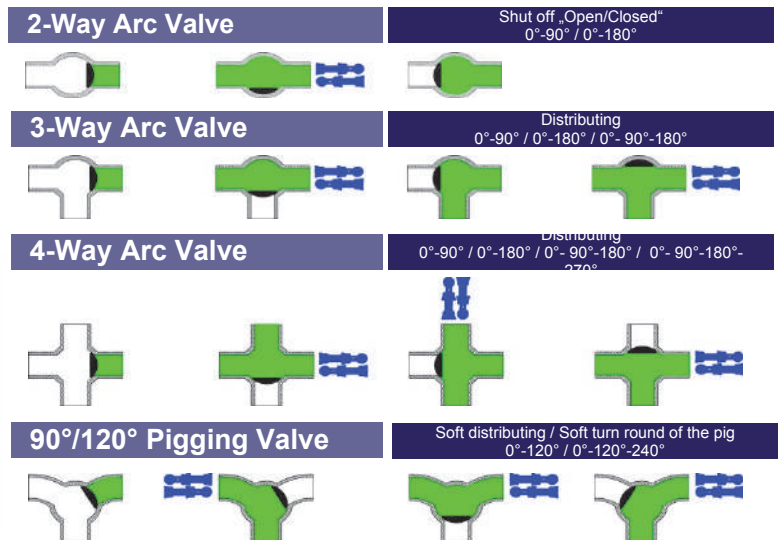
THE HYGENIC ALTERNATIVE TO BALL VALVES

FULL FLOW
ZERO RESTRICTION

CIP-able
PIG-able



- Materials:** Parts in contact with product: AISI 316L (1.4404)
O-ring gaskets: EPDM, Viton®, Silicone
Shutter: Teflon® (PTFE TFM1600) - optional: glass-fiber reinforced Teflon (GL25), Tecapeek®
- Surfaces:** In contact with product: Ra ≤ 0,8 µm (Ra ≤ 32µin) Option: Ra ≤ 0,4 µm EP Internal surface
- Temperature:** Operating temperature: 110°C (230°F) Short-term: 140°C (284°F) - optional: up to 160°C (320°F)
- Operating pressure:** Pressure behind arc: 10 bar (145 psi) - optional up to 20 bar (290,1 psi)
Pressure against arc: 3 bar (43,5 psi)
- Actuators:** Various feedback control systems and actuators (pneumatic, electrical), adaptable acc. Namur, DIN ISO 5211
- Further options:**
- Heated valve casing
 - Leakage control of moving O-ring seal / steam barrier
 - Ball-bearing supported selector shaft
 - Control valve 4 - 20 mA
 - 4-way version
 - 90° / 120° pigging valve
 - 3.1b certification.





LIAG VALVES & PRODUCT RECOVERY SYSTEMS

MANUAL ARC & PIGGING VALVES



| | ARC. 2 Way Manual. Butt Weld | ARC. 3 Way Manual. Butt Weld | PIGGING. 3 Way Manual. Butt Weld |
|-------------|---------------------------------|---------------------------------|-------------------------------------|
| | | | |
| | | | |
| Size | | | |
| 25mm / 1" | 25C52M21 | 25C53M21 | |
| 38mm / 1.5" | 38C52M21 | 38C53M21 | 38CV53M21 |
| 51mm / 2" | 51C52M21 | 51C53M21 | 51CV53M21 |
| 63mm / 2.5" | 63C52M21 | 63C53M21 | 63CV53M21 |
| 76mm / 3" | 76C52M21 | 76C53M21 | 76CV53M21 |
| 101mm / 4" | 102C52M21 | 102C53M21 | 102CV53M21 |
| 150mm / 6" | 152C52M21 | 152C53M21 | |

STAINLESS STEEL 90 Deg ACTUATED ARC VALVES

| | ARC. 2 Way, B/W (Spring Return) | ARC. 2 Way, B/W (Air/Air) | ARC. 3 Way, B/W (Spring return/ Air AntiClockwise) * | ARC. 3 Way, B/W (Spring return/ Air Clockwise) | ARC. 3 Way, B/W (Air/Air) |
|-------------|------------------------------------|------------------------------|--|--|------------------------------|
| | | | | | |
| | | | | | |
| Size | | | | | |
| 25mm / 1" | 25C52A21 | 25C52A21AA | 25C53A21CW | 25C52A21ACW | 25C53A21AA |
| 38mm / 1.5" | 38C52A21 | 38C52A21AA | 38C53A21CW | 38C52A21ACW | 38C53A21AA |
| 51mm / 2" | 51C52A21 | 51C52A21AA | 51C53A21CW | 51C52A21ACW | 51C53A21AA |
| 63mm / 2.5" | 63C52A21 | 63C52A21AA | 63C53A21CW | 63C52A21ACW | 63C53A21AA |
| 76mm / 3" | 76C52A21 | 76C52A21AA | 76C53A21CW | 76C52A21ACW | 76C53A21AA |
| 101mm / 4" | | | | | |
| 150mm / 6" | | | | | |

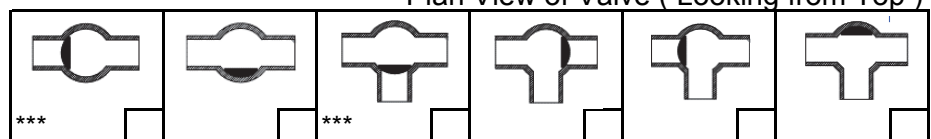
* Default supply



**Arrow direction signifies direction of movement when air is applied.

Proposed default spring return rest position

Plan View of Valve (Looking from Top)



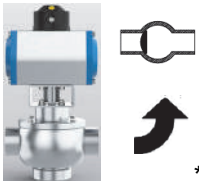
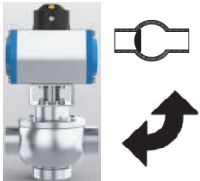
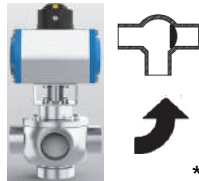
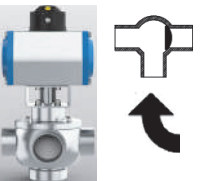
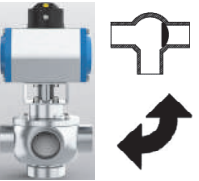
*** Default Position

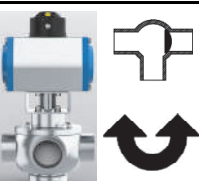
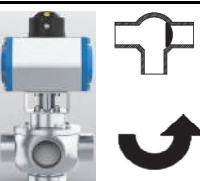
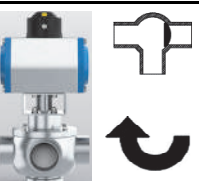
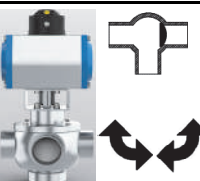


LIAG VALVES & PRODUCT RECOVERY SYSTEMS




HORIZONTAL ALUMINIUM ACTUATED ARC VALVES

| | ARC. 2 Way, Actuated, B/W (Spring Return) 0-90 Deg | ARC. 2 Way, Actuated, B/W (Air/Air) 0-90 Deg | ARC. 3 Way, Actuated, B/W (Spring return/ Air Clockwise) 0-90 Deg | ARC. 3 Way, Actuated, B/W (Spring return/ Air AntiClockwise) 0-90 Deg | ARC. 3 Way, Actuated, B/W (Air/Air) 0-90 Deg |
|-------------|--|---|--|--|---|
| Size |  ** |  |  ** |  |  |
| 25mm / 1" | 25C52Ab21 | 25C52Ab21AA | 25C53Ab21CW | 25C53Ab21ACW | 25C53Ab21AA |
| 38mm / 1.5" | 38C52Ab21 | 38C52Ab21AA | 38C53Ab21CW | 38C53Ab21ACW | 38C53Ab21AA |
| 51mm / 2" | 51C52Ab21 | 51C52Ab21AA | 51C53Ab21CW | 51C53Ab21ACW | 51C53Ab21AA |
| 63mm / 2.5" | 63C52Ab21 | 63C52Ab21AA | 63C53Ab21CW | 63C53Ab21ACW | 63C53Ab21AA |
| 76mm / 3" | 76C52Ab21 | 76C52Ab21AA | 76C53Ab21CW | 76C53Ab21ACW | 76C53Ab21AA |
| 101mm / 4" | 102C52Ab21 | 102C52Ab21AA | 102C53Ab21CW | 102C53Ab21ACW | 102C53Ab21AA |
| 150mm / 6" | 152C52Ab21 | 152C52Ab21AA | 152C53Ab21CW | 152C53Ab21ACW | 152C53Ab21AA |

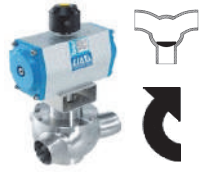
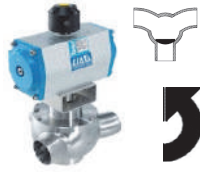
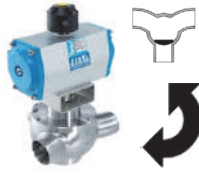
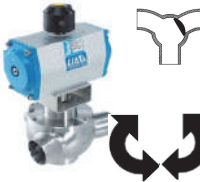
| | ARC. 3 Way, Actuated, B/W (Air/Air) 0-180 Deg | ARC. 3 Way, Actuated, B/W (Spring return/ Air Clockwise) 0-180 Deg | ARC. 3 Way, Actuated, B/W (Spring return/ Air AntiClockwise) 0-180 Deg | ARC. 3 Way, Actuated, B/W (Air/Air/Air) (0-90-180 Deg) |
|-------------|---|---|---|--|
| Size |  |  |  |  |
| 25mm / 1" | 25C53Ab21AA180 | 25C53Ab21CW180 | 25C53Ab21ACW180 | 25C53Ab21AAA |
| 38mm / 1.5" | 38C53Ab21AA180 | 38C53Ab21CW180 | 38C53Ab21ACW180 | 38C53Ab21AAA |
| 51mm / 2" | 51C53Ab21AA180 | 51C53Ab21CW180 | 51C53Ab21ACW180 | 51C53Ab21AAA |
| 63mm / 2.5" | 63C53Ab21AA180 | 63C53Ab21CW180 | 63C53Ab21ACW180 | 63C53Ab21AAA |
| 76mm / 3" | 76C53Ab21AA180 | 76C53Ab21CW180 | 76C53Ab21ACW180 | 76C53Ab21AAA |
| 101mm / 4" | 102C53Ab21AA180 | 102C53Ab21CW180 | 102C53Ab21ACW180 | 102C53Ab21AAA |
| 150mm / 6" | POA | POA | POA | POA |



 Arrow direction signifies direction of movement when air is applied.

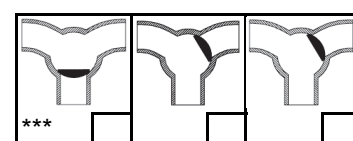


HORIZONTAL ALUMINIUM ACTUATED PIGGING VALVES

| | PIGGING. 3 Way, Act, B/W. (Spring/Air Clockwise) 0-120 Deg | PIGGING. 3 Way, Act, B/W (Spring/Air AntiClockwise) 0-120 Deg | PIGGING. 3 Way, Act, B/W (Air/Air) 0-120 Deg | PIGGING. 3 Way, Act, B/W (Air/Air/Air) 0-120-240 Deg |
|-------------|---|---|---|--|
| Size |  |  |  |  |
| 38mm / 1.5" | 38CV53Ab21CW | 38CV53Ab21ACW | 38CV53Ab21AA | 38CV53Ab21AAA |
| 51mm / 2" | 51CV53Ab21CW | 51CV53Ab21ACW | 51CV53Ab21AA | 51CV53Ab21AAA |
| 63mm / 2.5" | 63CV53Ab21CW | 63CV53Ab21ACW | 63CV53Ab21AA | 63CV53Ab21AAA |
| 76mm / 3" | 76CV53Ab21CW | 76CV53Ab21ACW | 76CV53Ab21AA | 76CV53Ab21AAA |
| 101mm / 4" | 102CV53Ab21CW | 102CV53Ab21ACW | 102CV53Ab21AA | 102CV53Ab21AAA |

Proposed default spring return rest position

Plan View of Valve (Looking from Top)

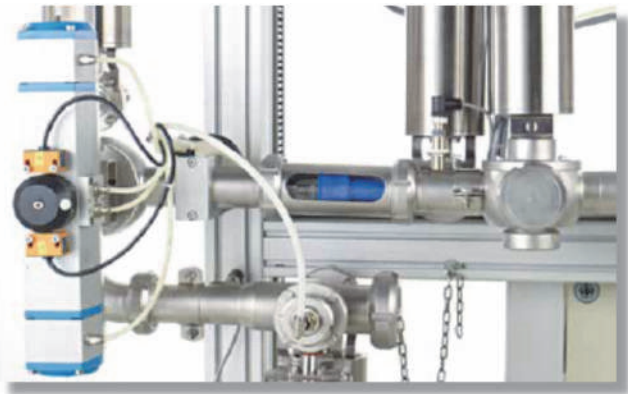




*** Default Position



LIAG PRODUCT RECOVERY SYSTEMS

DMV PRODUCT RECOVERY SYSTEMS

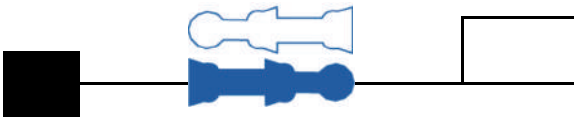


| | DMV Pig without magnet | DMV Pig with magnet |
|---|---|---------------------|
|  |  | |
| Size | | |
| 38mm / 1.5" | 38-40DV | 38-40DMV |
| 51mm / 2" | 50-51DV | 50-51DMV |
| 63mm / 2.5" | 63-65DV | 63-65DMV |
| 76mm / 3" | 76DV | 76DMV |
| 101mm / 4" | | 100-102DMV |

One Way. Manual Return of pig



Single Loop. Automatic return of pig from receiving station, then manual change of direction.



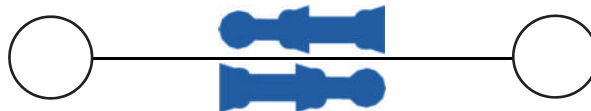
Double Loop. Automatic return of pig by use of LIAG pigging valves (closed system)



Ring System. Closed system



Two Way Turning Station. Automatic return of pig by use of LIAG turning station. (closed system)



DMV LIP PIG

DMV lip pigs are of homogeneous construction (hygienic design). They offer excellent cleaning effect and are virtually free of wear. Dynamic lips form a reliable sealing. As a function of the pushing and counterpressure these lips accommodate perfectly, thereby compensating for existing deviations in the pipe geometry. The pigs are highly flexible and suited for tight radii ($R = 1,5 \times D$). As an option, dynamic lip pigs are equipped with a magnet for location and control. They are FDA-rated and available in silicone in the nominal widths DN 40 – 100 (1,5" – 4").

Contact your nearest Matrix office for a free consultation and design services.

SMV PRODUCT RECOVERY SYSTEMS



For less demanding applications.
Where hygienic considerations are not required.



LIAG VALVES



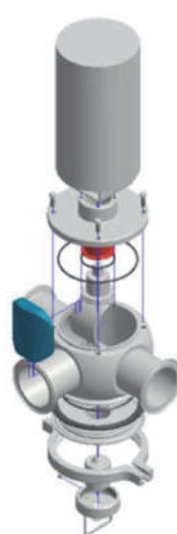
OPTIONS AND SPECIALTY VALVES

HEATED LID



LIAG® Heat Lid option, provides localised heating of the valve by use of steam or hot water. The purpose is to keep heated products at temperature at all stages of the process. Ideal for the confectionary industry

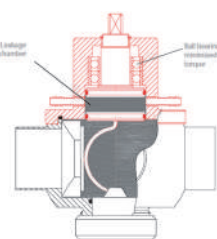
EASY-OPEN Arc valve for meat industry



LIAG® EASY-OPEN arc valves are specially designed as reliable partners of inline metal detectors and process lines in the meat industry without CIP Cleaning. This valve allows easy and quick opening with excellent cleanability.



LEAKAGE CAP



For maximum product safety, arc valves are available with a leakage monitoring system of the only moving/dynamic o-ring. The specific design identifies possible wearing defects of the seal and prevents any contamination from the outside environment. The special designed leakage chamber can act as a steam barrier or offer monitoring via means of a level conductor control (dilution of glycerine). The pivoting axle is supported with a stainless steel ball-bearing shaft for increased radial stability and 80% less required operating torque compared with the

FLOW CONTROL VALVE - Suitable for solids handling



On account of their favorable flow characteristic LIAG® arc valves are particularly suited for proportioning viscous and pasty products. Depending on the product to be proportioned LIAG® control arc valves can be delivered with various shutter qualities and linearization inserts. Control is performed via a standard 4-20mA (0-10V) electric actuator. The control characteristic / rate of flow or the control range can be adapted to customer requirements.

VENTURI VALVE - For powder mixers



LIAG® venturi valves are designed to enable smooth flow of powder through the valve, the middle port is orientated at a 135°/45° angle to the straight through passage. The Y-arrangement of the inlet creates the ideal flow and vacuum exhaust characteristics for proportioning and dosing. This allows for a complete full bore without reducing the nominal diameter as often experienced with the use of a butterfly valve. Furthermore the venturi valve can substitute up to two butterfly valves, which improves the operating control of the unit.

EXPANSION and SWIVEL JOINT



LIAG® swivel joint fittings are designed as rotating pipe connection, e.g. in a flow panel. Teflon guided rings ensure radial shore. Additionally are the extending swivel joint fittings. Able to compensate for thermal length movements of upto 75mm. LIAG® swivel joint fittings are of hygienic design and equipped with a leakage hole for visual inspection.

Sizes:
24.5, 38.1, 50.8, 63.5, 76.1, 101.8mm

BALL VALVES

ON REQUEST



| | 1 PIECE BSP BALL VALVE 316s/s WOG | 2 PIECE BSP BALL VALVE 316s/s WOG | 3 PIECE BSP BALL VALVE 316s/s WOG | SBV SANITARY BALL VALVE MANUAL | SBV SANITARY BALL VALVE ACTUATED | SBV SANITARY BALL VALVE ACTUATED Prepared for Thinktop |
|-------------|-----------------------------------|-----------------------------------|-----------------------------------|--------------------------------|----------------------------------|--|
| Size | | | | | | |
| 1/4" | BV008V003PL | BV008V002PL | BV008V005MT | | | ** Thinktop supplied separately |
| 3/8" | BV010V003PL | BV010V002PL | BV010V005MT | | | |
| 1/2" | BV015V003PL | BV015V002PL | BV015V005MT | | | |
| 3/4" | BV020V003PL | BV020V002PL | BV020V005MT | | | |
| 1" | BV025V003PL | BV025V002PL | BV025V005MT | 9612644001 | 9612644013 | 9612644019 |
| 1 1/4" | BV032V003PL | BV032V002PL | BV032V005MT | | | |
| 1 1/2" | BV040V003PL | BV040V002PL | BV040V005MT | 9612644002 | 9612644014 | 9612644020 |
| 2" | BV050V003PL | BV050V002PL | BV050V005MT | 9612644003 | 9612644015 | 9612644021 |
| 2 1/2" | | BV065V002PL | BV065V005MT | 9612644004 | 9612644016 | 9612644022 |
| 3" | | BV080V002PL | BV080V005MT | 9612644005 | 9612644017 | 9612644023 |
| 4" | | | BV100V005MT | 9612644006 | 9612644018 | 9612644024 |



MH SHUTTER VALVES

| | MH SHUTTER VALVE 2 WAY (No Handle) | MH SHUTTER VALVE 3 WAY (No Handle) |
|-------------|--------------------------------------|--------------------------------------|
| Size | | |
| 12mm / 1/2" | 9612445016 * | 9612445017 * |
| 19mm / 3/4" | 9612445026 * | 9612445023 * |
| 25mm / 1" | 9612260013 | 9612260113 |
| 38mm / 1.5" | 9612260014 | 9612260114 |
| 51mm / 2" | 9612260015 | 9612260115 |
| 63mm / 2.5" | 9612260016 | 9612260116 |
| 76mm / 3" | 9612260017 | 9612260117 |
| 101mm / 4" | 9612260018 | 9612260118 |

*(1/2" & 3/4" fitted with clamp ends std)

| HANDLE TO SUIT 2 WAY MH VALVE | HANDLE TO SUIT 3 WAY MH VALVE | ACTUATOR MOUNTING BONNET | BRACKET FOR INDICATION UNIT |
|-------------------------------|-------------------------------|--------------------------|-----------------------------|
| | | | |
| 9612436204 | 9612436201 | 9612495901 | 9612506201 |
| | | 9612496001 | 9612506202 |
| 9612436205 | 9612436202 | 9612496101 | 9612506203 |
| 9612436206 | 9612436203 | 9612505101 | |
| 9612449002 | 9612449001 | 9612480801 | 9612506204 |

ACTUATOR KH630 2 Pos. 90° SPRING RETURN

| Code | Size | |
|---------------|-------------|--|
| 9612482101 | 12.7 - 51mm | |
| 9612482102 ** | 12.7 - 51mm | |
| 9612494601 | 63.5 - 76mm | |
| 9612494602 ** | 63.5 - 76mm | |

** Actuator to suit Indication unit

ACTUATOR KH631 2 Pos. 90° AIR/AIR

| Code | Size | |
|---------------|-------------|--|
| 9612479201 | 12.7 - 76mm | |
| 9612479203 ** | 12.7 - 76mm | |
| 9612480601 | 101mm | |
| 9612480603 ** | 101mm | |

** Actuator to suit Indication unit

ACTUATOR KH632 2 Pos. 180° AIR/AIR

| Code | Size | |
|---------------|-------------|--|
| 9612479202 | 12.7 - 76mm | |
| 9612479204 ** | 12.7 - 76mm | |
| 9612480602 | 101mm | |
| 9612480604 ** | 101mm | |

** Actuator to suit Indication unit

ACTUATOR KH633 3 Pos. 90° AIR/AIR/AIR

| Code | Size | |
|------------|-------------|--|
| 9612495301 | 12.7 - 76mm | |
| 9612495701 | 101mm | |
| | | |
| | | |

SERVICES VALVES



CI WAFER BUTTERFLY VALVES

316s/s Disc
EPDM Seat
Cast Iron Body



| Size | Code | Code |
|-------|---------|------------|
| 50NB | WCI050M | GU050EPDMS |
| 65NB | WCI065M | GU065EPDMS |
| 80NB | WCI080M | GU080EPDMS |
| 100NB | WCI100M | GU100EPDMS |
| 125NB | WCI125M | GU125EPDMS |
| 150NB | WCI150M | GU150EPDMS |
| 200NB | WCI200M | GU200EPDMS |

STAINLESS STEEL KNIFEGATE VALVES

| Size | MANUAL 316s/s | ACTUATED 316s/s |
|-------|---|---|
| 50NB |  |  |
| 65NB | | |
| 80NB | | |
| 100NB | | |
| 125NB | | |
| 150NB | | |
| 200NB | | |
| 250NB | | |
| 300NB | | |
| 350NB | | |
| 400NB | | |
| 450NB | | |
| 500NB | | |
| 600NB | | |

Actuators to suit
butterfly valves available.

Sized on application



FULL FLOW DIAPHRAGM VALVES

WIERLESS DIAPHRAGM VALVES (Manual)


| Code | Size |  |
|----------|-------|---|
| WDV0256M | 25mm | |
| WDV0406M | 38mm | |
| WDV0506M | 51mm | |
| WDV0656M | 63mm | |
| WDV0806M | 76mm | |
| WDV1006M | 101mm | |

BSP VALVES


BSP NON RETURN VALVE 316 s/s (SPRING)

| Code | Size |  |
|------------|--------|---|
| BSPNRV0156 | 1/2" | |
| BSPNRV0206 | 3/4" | |
| BSPNRV0256 | 1" | |
| BSPNRV0326 | 1 1/4" | |
| BSPNRV0406 | 1 1/2" | |
| BSPNRV0506 | 2" | |

BSP NON RETURN VALVE 316 s/s (SWING)

| Code | Size |  |
|------------|--------|---|
| BSPSCV0156 | 1/2" | |
| BSPSCV0206 | 3/4" | |
| BSPSCV0256 | 1" | |
| BSPSCV0326 | 1 1/4" | |
| BSPSCV0406 | 1 1/2" | |
| BSPSCV0506 | 2" | |

BSP Y Type Strainer

| Code | Size | holes |  |
|-----------|--------|-------|---|
| BSPYS0156 | 1/2" | 1.5mm | |
| BSPYS0206 | 3/4" | 1.5mm | |
| BSPYS0256 | 1" | 1.5mm | |
| BSPYS0326 | 1.25" | 1.5mm | |
| BSPYS0406 | 1.5" | 1.5mm | |
| BSPYS0506 | 2" | 1.5mm | |
| BSPYS0656 | 2 1/2" | 1.5mm | |
| BSPYS0806 | 3" | 1.5mm | |



FILTRATION UNITS


LKIF-Inline filter with clamp ends

| Code | Size | holes |
|------------|------|-------|
| 9612025701 | 25mm | 1.5mm |
| 9612025702 | 38mm | 1.5mm |
| 9612025703 | 51mm | 1.5mm |
| 9612025704 | 63mm | 1.5mm |
| 9612025705 | 76mm | 1.5mm |



LKIF-Inline filter with DS / SMS Union

| Code | Size | holes |
|------------|------|-------|
| 9612025801 | 25mm | 1.5mm |
| 9612025802 | 38mm | 1.5mm |
| 9612025803 | 51mm | 1.5mm |
| 9612025804 | 63mm | 1.5mm |
| 9612025805 | 76mm | 1.5mm |




LKVF-Coarse Strainer. Butt Weld

| Filter element. | d mm | C mm | Perf % | Size | 1mm Holes | 2mm Holes | 3mm Holes |
|-----------------|---------|------------|------------|------------|------------|------------|------------|
| | | | | 25mm | 9612190120 | 9612190125 | 9612190130 |
| | 38mm | 9612190121 | 9612190126 | 9612190131 | | | |
| | 51mm | 9612190122 | 9612190127 | 9612190132 | | | |
| | 63mm | 9612190123 | 9612190128 | 9612190133 | | | |
| | 76mm | 9612190124 | 9612190129 | 9612190134 | | | |




LKVF-Coarse Strainer Battery

| Code | Size | holes |
|------------|------|------------|
| 9612192101 | 25mm | 1,2 or 3mm |
| 9612192102 | 38mm | 1,2 or 3mm |
| 9612192103 | 51mm | 1,2 or 3mm |
| 9612192104 | 63mm | 1,2 or 3mm |
| 9612192105 | 76mm | 1,2 or 3mm |



Y' Type Strainer

| Code | Size | holes |
|--------------|-------|-------|
| YSTRAINER025 | 25mm | 1.6mm |
| YSTRAINER040 | 38mm | 1.6mm |
| YSTRAINER050 | 51mm | 1.6mm |
| YSTRAINER065 | 63mm | 1.6mm |
| YSTRAINER080 | 76mm | 1.6mm |
| YSTRAINER100 | 100mm | 1.6mm |




Inline Strainer

| Code | Size | holes |
|------|-------|-------|
| | 25mm | 1.6mm |
| | 38mm | 1.6mm |
| | 51mm | 1.6mm |
| | 63mm | 1.6mm |
| | 76mm | 1.6mm |
| | 100mm | 1.6mm |



T' Type Strainer

| Code | Size | holes |
|--------------|-------|-------|
| TSTRAINER025 | 25mm | 1.6mm |
| TSTRAINER040 | 38mm | 1.6mm |
| TSTRAINER050 | 51mm | 1.6mm |
| TSTRAINER065 | 63mm | 1.6mm |
| TSTRAINER080 | 76mm | 1.6mm |
| TSTRAINER100 | 100mm | 1.6mm |



LKSF SLOT STRAINER (Wedge Wire)

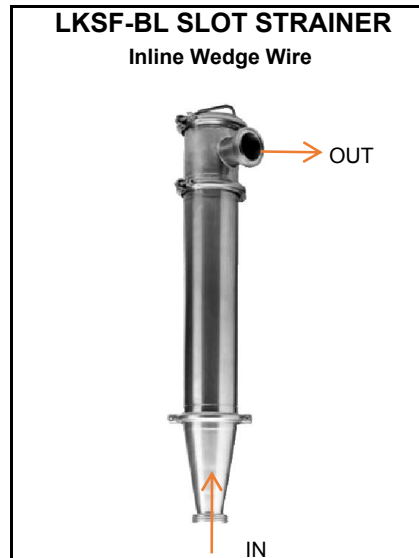
Sizes: 25,38,51,63,76 & 101mm

| Standard Element sizes |
|------------------------|
| 77µm |
| 105µm |
| 177µm |
| 500µm |
| 707µm |
| 1000µm |
| 2000µm |

| Optional Element sizes available | |
|----------------------------------|--------|
| 53µm | 420µm |
| 63µm | 595µm |
| 88µm | 841µm |
| 125µm | 1190µm |
| 149µm | 1410µm |
| 210µm | 1680µm |
| 250µm | 2380µm |
| 297µm | 3360µm |
| 354µm | |

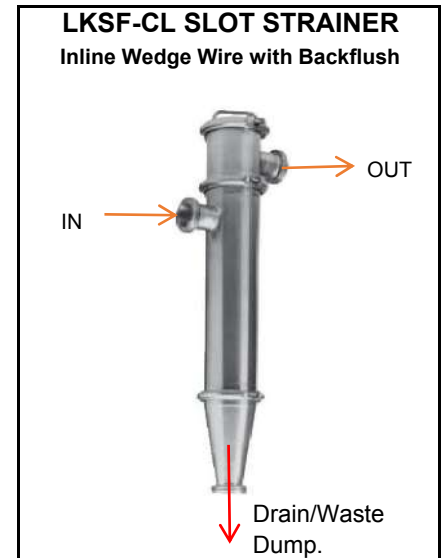
LKSF-BL SLOT STRAINER

Inline Wedge Wire



LKSF-CL SLOT STRAINER

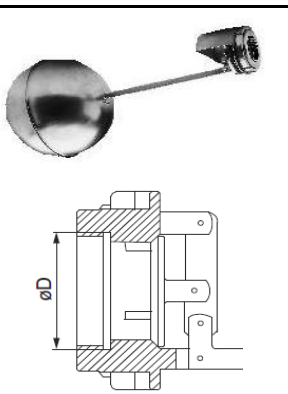
Inline Wedge Wire with Backflush



SANITARY VALVES

LKSF FLOAT VALVES

| Code | Size (D) |
|-----------------------------------|-------------|
| 9611250045 | 25mm / 1" |
| 9611250046 | 38mm / 1.5" |
| 9611250047 | 51mm / 2" |
| 9611250048 | 63mm / 2.5" |
| 9611250049 | 76mm / 3" |
| 9611250050 | 90mm / 3.5" |
| Splash Screen to suit LKSF | |
| 9611250057 | 25 - 38mm |
| 9611250058 | 51 - 63mm |
| 9611250059 | 76 - 90mm |



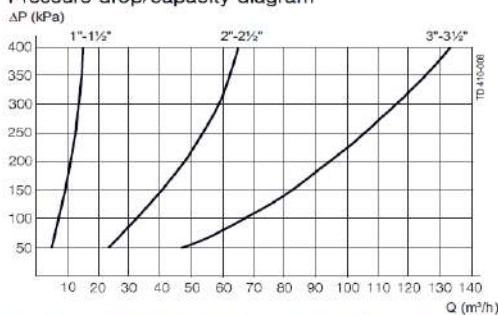
Working principle

Float valve LKSV is installed on the tank wall and the tank inlet tube is fixed to the valve. The seat opening is determined by the position of the float on the liquid. The movement of the float is transferred by mechanical connection to the valve which allows liquid flow into the tank to compensate for outward flow, thus maintaining a constant level in the tank.

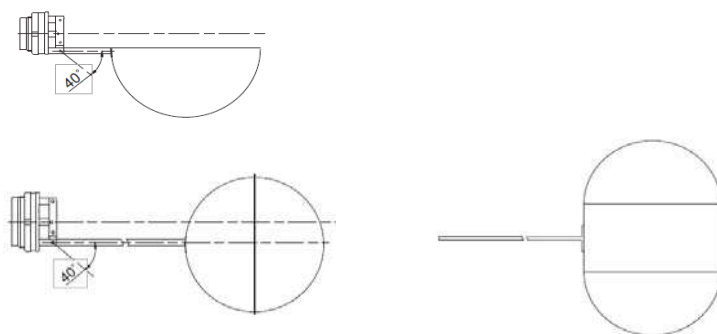
Float valve LKSV is designed for maintaining a constant liquid level in a tank or container.

LKSV is, however, not suitable if the liquid has a tendency to foam, and the pressure drop is relatively high.

Pressure drop/capacity diagram



Note! Capacities are for float valve in fully open position.



LKUV-2 AIR RELEASE VALVE

| Code | Connection |
|------------|----------------|
| 9613426901 | 20mm butt weld |
| 9613426905 | 38mm Tri-Clamp |
| 9613426908 | 51mm Tri-Clamp |
| | |
| | |
| | |



Working principle

LKUV-2 is a double-seated valve with a freely moving plastic ball. The ball, which is lighter than water, closes against the upper or lower seat, depending on the pressure conditions.

LKUV-2 is a reliable, automatic air-relief valve which is installed vertically on the top of a pipeline or container or before the inlet for a pump, where the removal of air is required. Example 1: Bleeding of a pipe line where an air pocket has formed on account of the installation. In this case the valve is installed at the top of the pipe. Example 2: Bleeding of a pipe on the suction side of a pump. The suction side is bled automatically, before the pump starts, establishing a vacuum. Binding of air to the product will be prevented, and hence subsequent cavitation. In this case the valve is installed in front of the pump, on top of the inlet pipe.

LKBV- AIR BLOW VALVE

| Code | Connection |
|------------|------------|
| 9611250117 | 51mm 2" |
| | |
| | |
| | |
| | |



The airblow valve is used for emptying liquids from pipe-lines or for agitating the contents of tanks by blowing air.

Air is supplied to the airblow valve from a main buffer tank via a pilot operated solenoid valve. Pressure will then build up inside the airblow valve and the valve plug will open, delivering a current of air into the pipeline system or tank.

After a certain time the solenoid valve will close. This reduces the pressure in the airblow valve and allows the spring to return the valve plug to its original position.

This process will repeat itself at intervals, thus emptying the pipeline system of liquid or agitating the contents of the tank.



Constant Pressure System

Application

To obtain an accurate top pressure system for remote control in tanks during filling, storage and emptying conditions. The constant pressure system is applicable for control of one or more tanks working with the same top pressure.

| Size | Filling/Empty rate |
|------|--------------------|
| 38mm | max 500 hl/h |
| 51mm | max 1000 hl/h |



Scandibrew Carlsberg Flask

Application

The Carlsberg flask is used for sterilizing wort and propagating pure yeast culture for yeast propagation plants in laboratory scale.

| Size | Transfer pressure |
|------|-------------------|
| 33L | 2-3 Bar |



Scandibrew Combined safety valve (overpressure/vacuum)

Application

To minimise risk of tank damage due to implosion and over-pressure. Applicable as an option to dead weight or spring regulated safety valves.

| Connection | Vacuum | Burst disc |
|------------|--------|-------------|
| 76mm | 70mm | 50 or 80mm |
| 101mm | 100mm | 80 or 100mm |
| 150mm | 150mm | 80 or 100mm |
| 200mm | 200mm | 80 or 100mm |



Scandibrew Top Plate assemblies

Application

For cylindro-conical tanks the special compact design and central location of the tank top system provides an efficient and economic way of mounting anti vacuum / pressure relief safety valves, CIP supply with cleaning head, pressure control etc., in a single assembly.

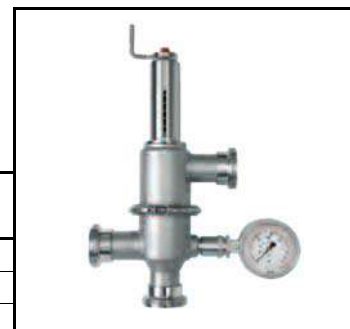


Scandibrew tank pressure regulator, Type 2

Application



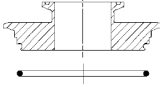
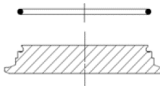
The tank pressure regulator is used on tanks within the brewing industry. The purpose of the regulator is to maintain and regulate top pressure on pressure tanks during filling, processing and emptying.

| Size | Filling/Empty rate | Working capacity of fermenter* |
|-------|--------------------|--------------------------------|
| 50mm | max 1000 hl/h | max 4000 hl |
| 80mm | max 2000 hl/h | max 8000 hl |
| 101mm | max 3000 hl/h | max 12000 hl |















*At max. fermentation rate 2.4 deg. Plato / 24 hrs.

ALFA LAVAL INSTRUMENT BODY AND FITTINGS



| | ISO Body. (Imperial tube) | DIN Body (metric tube) | Bonnet adapter for ISO2852 1½" instrumentation incl. O-ring | Blind cap incl. O-ring |
|-------------|---|---|---|---|
| Size |  |  |  |  |
| DN25 / 1" | 9614258107 | 9614258101 | 9614258201 | 9614259501 |
| DN40 / 1.5" | 9614258108 | 9614258102 | | 9614259502 |
| DN50 / 2" | 9614258109 | 9614258103 | 9614258202 | 9614259503 |
| DN65 / 2.5" | 9614258110 | 9614258104 | 9614258203 | 9614259504 |
| DN80 / 3" | 9614258111 | 9614258105 | 9614258204 | 9614259505 |
| DN100 / 4" | 9614258112 | 9614258106 | 9614258205 | 9614259505 |



ALFA LAVAL HYGIENIC INSTRUMENTS

| | | | | | |
|--|---|---|--|---|--|
| Level Switch  | Pneumatic level transmitter 2"  | Potentiometric level transmitter  | Conductivity Transmitter  | Temperature Transmitter 4-20mA output  | Termometers (bottom and rear-entry)  |
| Electronic Pressure Transmitter  | Pressure Gauges  | Electronic Pressure Gauge 4-20mA output  | Pressure Transmitter 4-20mA output  | Rotacheck Plus -Tank cleaning validation  | Rotacheck Basic -Basic Tank validation  |

ALFA LAVAL WEIGHING SYSTEMS

| | |
|--|---|
| Load Cell  | Weighing System Control  |
|--|---|

The Alfa Laval robust digital load cells are based on a patented capacitive measurement principle where a non-contacting capacitive sensor is mounted inside the load cell body. The load cells are to a very high degree unaffected by overloads, sideloads, shocks and welding voltages. Therefore straightforward hygienic installation of the load cells can be done without expensive and complicated mounting kits and overload protection devices.

PROCES-DATA

ELECTROMAGNETIC FLOW METER SYSTEMS

PD340 Series



PD 340- C102

The PD 340 Flow Transmitter is an electromagnetic precision meter for the volumetric measurement of liquids that are electrically conductive. The transmitter can be used in applications where a hygienic design is required. The rugged construction of the transmitter makes it suitable for installations where solid particles are present in the liquid.

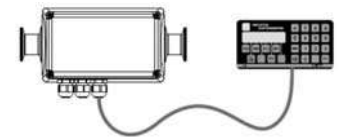
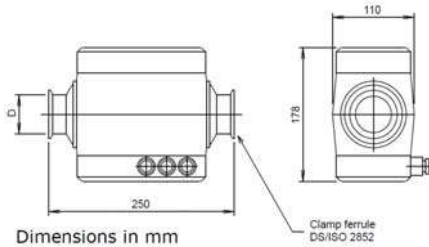
Functions

- * Pulse and 4-20mA outputs
- * Batch control; function
- * Built-in PI flow controller
- * Simple display connection. (PD210)
- * P-Net IEC 61158 Fieldbus communication
- * Two built-in counters for totalising the volume flow
- * Inputs for temperature sensor and digital signal



PD 210 Controller

| Size | Max Flowrate |
|------|-----------------|
| C25 | 1" 8 m3/hr |
| C38 | 1 1/2" 20 m3/hr |
| C51 | 2" 40 m3/hr |
| C63 | 2 1/2" 80 m3/hr |
| C76 | 3" 120 m3/hr |
| C102 | 4" 200 m3/hr |



Supplied with PD 210 display unit mounted on terminal box

| Size | Standard Version (2 pulse output) | Extended Version (current output, pulse output, P-Net interface) | Supplied with PD 210 display unit mounted on terminal box | | Profibus DP Interface | PD 210 Display |
|------|-----------------------------------|--|---|--|-----------------------|----------------|
| | | | Standard Version (2 pulse output) | Extended Version (current output, pulse output, P-Net interface) | | 600087 |
| C25 | 610100 | 611100 | 610134 | 611136 | 611135 | |
| C38 | 610300 | 611300 | 610336 | 611336 | 611335 | |
| C51 | 610500 | 611500 | 610536 | 611538 | 611537 | |
| C63 | 610700 | 611700 | 610730 | 611739 | 611738 | |
| C76 | 610800 | 611800 | 610801 | 611801 | 611767 | |
| C102 | 610900 | 611900 | | | 611901 | |

KEOFITT SAMPLING VALVES



WORLD LEADERS IN STERILE SAMPLING™

M4 CLASSIC

| Pipe(P) Welding ø1" | Tank(T) Welding ø28mm | Clamp ø½" | Clamp ø1" |
|------------------------|-----------------------------|-----------|-----------|
| | | | |
| 400011 | 400001 | 400021 | 400022 |

The M4™ sampling valve is the smallest Keofitt® valve, designed for sampling of low viscosity products

Max Particle size: 1.5mm
Viscosity range: 0 - 100cP

| | Type H. Turn knob. 0-6Bar | Type K. Key ring 0-6 bar | Key Ring for type K head | Type Q. Lever Handle 0-6Bar | Type N. Pneumatic 0-6Bar | Type N. Pneumatic Adjustable. 0-6Bar | Type B No Spring 0-12 Bar |
|----------------|---------------------------------|--------------------------------|-----------------------------|-----------------------------------|--------------------------------|--|---------------------------------|
| | | | | | | | |
| Silicon | 400041 | 400042 | 400076 | 400043 | 400044 | 400045 | 400047 |
| EPDM | 400041E | 400042E | 400076 | 400043E | 400044E | 400045E | 400047E |
| PTFE | 405541 | 405542 | 400076 | 405543 | 405544 | 405545 | 405547 |

W9 CLASSIC

| Pipe(P) Welding ø1" | Tank(T) Welding ø28mm | Clamp ø½" | Clamp ø1" | Clamp ø2" |
|------------------------|-----------------------------|-----------|-----------|-----------|
| | | | | |
| 850001 | 850011 | 850036 | 850021 | 850003 |

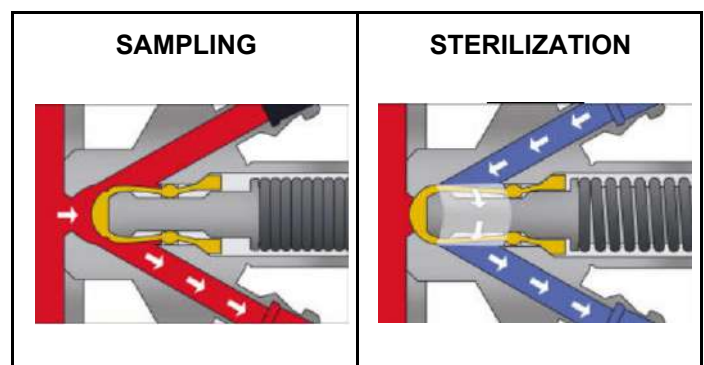
The W9™ is the standard Keofitt® sampling valve, the valve others are measured to. Designed for sampling medium viscosity products

Max Particle size: 2-3 mm
Viscosity range: 0 - 1,000cP

NEW: W9 Valve heads available with FFKM Material

| | Type H. Turn knob. 0-6Bar | Type H. Turn knob with Microport option | Type K. Key ring 0-6 bar | Type K. Key ring with Microport option | Key Ring for type K head | Type B No Spring 0-12 Bar |
|----------------|---------------------------------|---|--------------------------------|--|-----------------------------|---------------------------------|
| | | | | | | |
| Silicon | 600041 | 600048 | 600042 | 600049 | 600076 | 600047 |
| EPDM | 600041E | 600048E | 600042E | 600049E | 600076 | 600047E |
| PTFE | 85541 | | 855542 | | 600076 | 855547 |

| | Type Q. Lever Handle 0-6Bar | Type N. Pneumatic 0-6Bar | Type N. Pneumatic Adjustable. 0-6Bar |
|----------------|-----------------------------------|--------------------------------|--|
| | | | |
| Silicon | 600043 | 600044 | 600045 |
| EPDM | 600043E | 600044E | 600045E |
| PTFE | 855543 | 855544 | 855545 |





KEOFITT SAMPLING VALVES

W15 CLASSIC

The W15™ sampling valve is designed for sampling high viscosity products or for large samples of medium or low viscosity products

Max Particle size: 8mm
Visc. range cP: 0 - 50,000

| PTFE | VALVE HEADS | | | VALVE BODIES | | |
|------|---------------------------|---------------------------|--------------------------|-----------------|-----------------|-----------|
| | Type H. Turn knob. 0-6Bar | Type B No Spring 0-12 Bar | Type N. Pneumatic 0-6Bar | Pipe(P) Welding | Tank(T) Welding | Clamp ø3" |
| | | | | | | |
| | 405541 | 405547 | 405544 | 860011 | 860001 | 860003 |

W25 CLASSIC

The W25™ is the largest Keofitt® sampling valve. Designed for sampling of very high viscosity products or large samples of high viscosity products

Max Particle size: 17mm
Viscosity range cP: 0 - 250,000

| PTFE | VALVE HEADS | | BODY |
|------|------------------|----------------------------|-----------------|
| | Type N Pneumatic | Type B. No Spring 0-12 Bar | Tank(T) Welding |
| | | | |
| | 875544 | 875547 | 870001 |

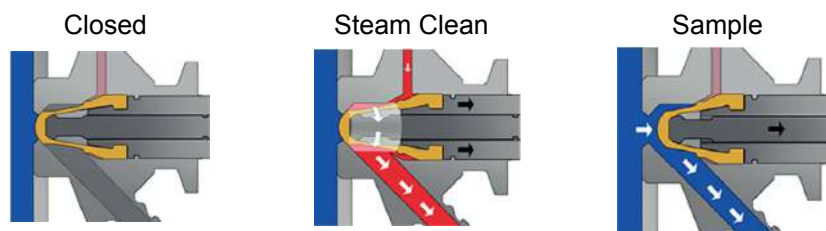


SESAME™ DUAL-SEAT SAMPLING VALVE

The KEOFITT SESAME Sampling Valve is KEOFITT's newest and patented dual-seat sampling valve. Truly unique in the market, it offers optimal CIP and SIP conditions while also incorporating steam supply control and completely eliminating the steam inlet dead-space in other designs.

The unique feature of this valve is in its membrane design which incorporates two separate seats for sampling and sterilizing/sanitizing, respectively. The second seat is located in the area sealing off the valve head. This design allows the sealing area to be sterilized along with the valve chamber prior to each sampling procedure. Furthermore, no separate inlet is required, thus eliminating any dead space while sampling.

The KEOFITT SESAME valve is designed for sampling of low or medium viscosity products with included solid particles of less than 3mm in diameter.



| SILICON | VALVE HEADS | | | VALVE BODIES | | | |
|---------|--------------------|--------------|-------------------|-----------------|-----------------|----------|----------|
| | Type H. Turn knob. | Type Q Lever | Type N. Pneumatic | Pipe(P) Welding | Tank(T) Welding | Clamp 1" | Clamp 2" |
| | | | | | | | |
| | 890041 | 890043 | 890044 | 890011 | 890001 | 890021 | 890003 |
| | 890041E | 890043E | 890044E | | | | |
| | 895541 | 895543 | 895544 | | | | |
| | 890041F | 890041F | 890044F | | | | |
| | SPARE MEMBRANE | | | SILICON (10 pk) | | 890051 | |
| | | | | EPDM (10 pk) | | 890052 | |
| | | | | PTFE (ea.) | | 890055 | |
| | | | | FFKM (ea.) | | 890053 | |

SIMPLEX VALVE



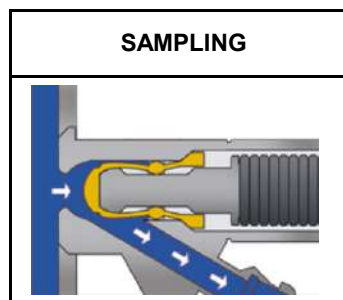
| | | | | |
|----------------|--------------|--------------|---------------------------|------------|
| MANUAL | Tank Welding | Pipe Welding | Mini Clamp 1/2" & 3/4" | 1" Clamp |
| | | | | |
| Silicon | 830141 | 831141 | 832141 | 832241 |
| EPDM | 830141EPDM | 831141EPDM | 832141EPDM | 832241EPDM |
| PTFE | 830141PTFE | 831141PTFE | 832141PTFE | 832241PTFE |

| | | | | |
|----------------|--------------|--------------|---------------------------|------------|
| PNEUMATIC | Tank Welding | Pipe Welding | Mini Clamp 1/2" & 3/4" | 1" Clamp |
| | | | | |
| Silicon | 830144 | 831141 | 832141 | 832241 |
| EPDM | 830141EPDM | 831141EPDM | 832141EPDM | 832241EPDM |
| PTFE | 830141PTFE | 831141PTFE | 832141PTFE | 832241PTFE |

Simplex™ is the CIP-able and auto-drainable valve for chemical and/or physical sampling of products

Max Particle size: 3.0mm

Viscosity range: 1000cP



Alternate Outlet connections

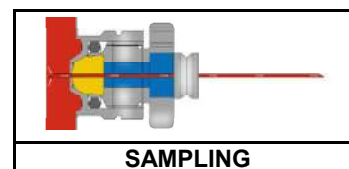
| | |
|----------|------------|
| Weld End | Mini Clamp |
| | |
| 830107 | 830121 |

MICROPORIT SAMPLING

| | | | | |
|----------------|--------------|--------------|--------------------------------|----------------------------|
| | Tank Welding | Pipe Welding | Tank Welding (7x membranes) | 3" Clamp (7x membranes) |
| | | | | |
| Silicon | 900057 | 900056 | 840001 | 840020 |

The Keofitt® Micro Ports™ are designed to take samples using a Hypodermic needle or a syringe, with minimum risk of contamination.

Designed for sampling low viscosity products with microscopic particles in the fluid. The main products Micro Ports™ are used for have about 0-50cP in viscosity.



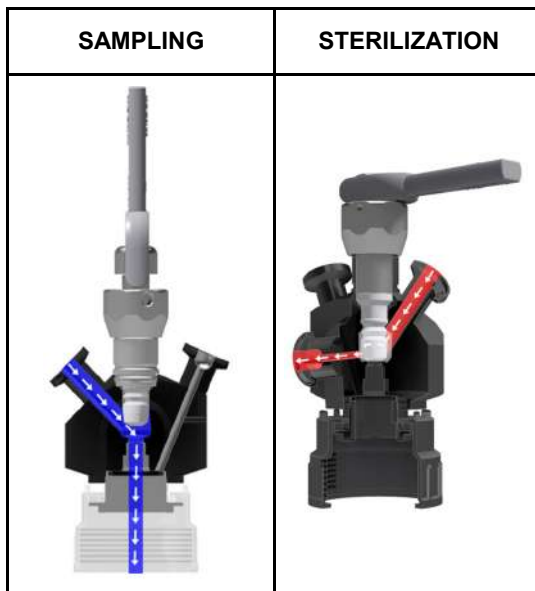
KEOFITT BOTTLE SAMPLING SYSTEM

| | | | | |
|----------------|-------------------------|-------------------------|--------------------------|--------------------------|
| | Aseptic Sampling System | Sampling Bottle Head W9 | Sampling Bottle Head W15 | Sampling bottle Head W25 |
| | | | | |
| Silicon | 260001 | 260030 | 860030 | 870030 |

The KEOFIT Aseptic System enables the user to take a truly representative aseptic sample. It protects the sample against airborne contamination, while extracting the sample, during transportation and storage.

The standard operating procedure involves steaming the sampling valve with the KEOFIT Aseptic System connected, in order to sterilize the sampling valve and the connection between the sampling valve and the KEOFIT Aseptic System. This procedure ensures the sterilization of the whole flow path in a closed circuit.

The KEOFIT Aseptic System is based on KEOFIT's guaranteed high quality, microbiologically safe valve design. It shall be used with PP sampling bottles (# 260325-1 / 260525-1 / 260625-1), which are autoclavable, robust and translucent.





KEOFITT SAMPLING VALVES

SINGLE USE SAMPLING BAGS

The Keofitt Sampling Bags have all been developed as single-use solutions to the cumbersome and difficult task of taking a representative sample and bringing it safe and clean from the sampling point to the laboratory.

Due to shelf life considerations. Bag deliveries are based on supply agreements. Bags are not stocked but made to order.

| SIZE | Aseptic Sample Bags | | Sterile Sampling Bags | | Spike Bags | |
|--------|---------------------|----------------|-----------------------|----------------|------------|----------|
| | Hose Piece | Mini Tri-Clamp | Hose Piece | Mini Tri-Clamp | PE | PP |
| 50ml | | | | | | |
| 250ml | 120050 | 120050TC | | | | |
| 500ml | 120250 | 120250TC | | | | |
| 1000ml | 120500 | 120500TC | 110500 | 110500TC | 130500PE | 130500PP |
| 2000ml | 121000 | 121000TC | 111000 | 111000TC | 131000PE | 131000PP |
| 2000ml | 122000 | 122000TC | 112000 | 112000TC | | 133000PP |

KEOFITT ACCESSORIES

| | Quick Coupling for PTFE tube | Quick Coupling for s/s tube | 10 pack Rubber Cap | Quick Coupling Plug | Adjustable PRV | Sampling Coil | Spike for Spike Bag |
|--------------------------|------------------------------|-----------------------------|--------------------|---------------------|----------------|---------------|---------------------|
| | | | | | | | |
| M4 | 400071 (8x1) | 400070 (8x1) | 400062 | 400061 | 400059 | 400058 | 400013 |
| W9/Simplex/Sesame | 800071 (10x1) | 800070 (10x1) | 600062 | 800061 | | 800058 | 800013 |
| W15 | 300021 | | | | | | 900013 |

| | Quick Coupling mini tri-clamp | Quick Coupling ?? ID hose | Quick Coupling 12-13mm or 1/2" ID hose | Quick Coupling W9 hosepiece | Quick Coupling M4 hosepiece | PTFE TUBE c/w Quick Coupling 0.5m | PTFE TUBE c/w Quick Coupling 1.0m |
|--------------------------|-------------------------------|---------------------------|--|-----------------------------|-----------------------------|-----------------------------------|-----------------------------------|
| | | | | | | | |
| M4 | 400083 | 400084 (ID 4mm) | 400085 | 400086 | | 550002 | 550003 |
| W9/Simplex/Sesame | 800083 | 800082 (ID 9mm) | | | 800086 | | |
| W15 | | | | 900096 | | 5500004 | 550005 |

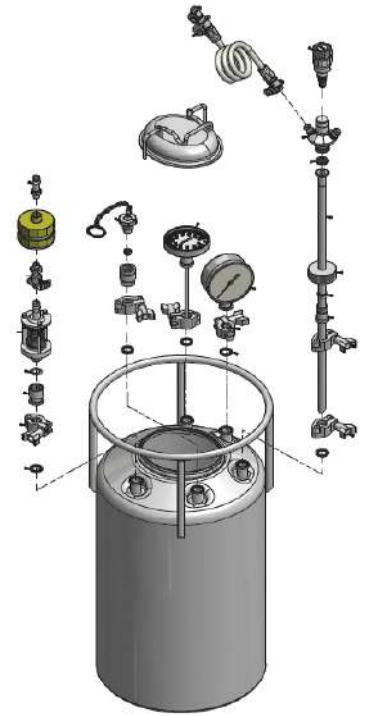
| | Proximity Sensor | Proximity Sensor mounting | Hose Piece for Tube welding | KARCHER / KEOFIT Adaptor | 10pc Membrane Silicon Grey | 10pc Membrane EPDM Black | 10pc Membrane PTFE White |
|-------------------|------------------|---------------------------|-----------------------------|--------------------------|----------------------------|--------------------------|--------------------------|
| | | | | | | | |
| M4 | 400166 | 400167 | 400067 (10X8) | 550057 | 400051 | 400052 | 400055 |
| W9/Simplex | 400166 | 600267 | 700108 (11X8) | 550057 | 600051 | 600052 | 850055 |
| W15 | | | | | | | 860055 |
| W25 | | | | | | | 870055 |

CARLSBERG FLASK

YEAST PROPAGATION FLASK



- ❖ The Carlsberg Flask is used for the propagation of yeast cultures in a sterile environment and the transfer of the pure yeast culture under sterile conditions ensuring contamination-free culture development.
- ❖ Sterilisation of flask environment and fermentation media by hot plate, external flame, or autoclave.
- ❖ Dual-action tank inlet valve for vessel protection and sterile air supply without loss of pressure or exposure to atmospheric conditions.
- ❖ Inoculation /extraction septum valve.
- ❖ Patented sterile transfer valve and sterile hose assemblies.
- ❖ Vessel pressure gauge.
- ❖ Vessel temperature gauge.
- ❖ Approx. 30 liter standard gross size – other sizes available on request.
- ❖ 316L material of construction.
- ❖ Electro-polished finish 5-10 RA.
- ❖ Dimensions: 30 liter - 660 mm (height) - Ø300 mm.
- ❖ Comes complete with vessel, pressure relief valve / Sterile air injection valve, sterile filter housing, sterile filter cartridges, inoculation, septum, pressure gauge, temperature gauge, sterile transfer valve, 3 ft transfer line with stainless couplings.



CERTIFICATION

Keofitt offers all certification for free through its online service center. When you need a certificate, you can now access them all 24/7. Just enter the serial number as engraved on your valve and all your certificates will be made available immediately.

www.keofitt.dk

Go to Keofitt Online Service Center.



w w w . k e o f i t t . d k

...we 
Sampling!

KE  FITT®

WORLD LEADERS IN STERILE SAMPLING™



Flavours of the future

Hygienic equipment for reliable and sustainable beverage production

Shifting patterns of consumption and changes in consumer tastes challenge beverage producers to respond with products that meet the new demands. From efficient mixers, heat exchangers and tank cleaning machines, to versatile pumps and valves, Alfa Laval's broad equipment range makes it possible to increase process reliability while reducing consumption of energy and water.



Alfa Laval Hybrid Powder Mixer

A fast and efficient way to add dry ingredients into a product mix, even with high solid content.



Alfa Laval FrontLine

The gasketed plate heat exchanger securing product integrity, long operating times and superior cleanability.



Alfa Laval LKH Prime

A versatile, energy efficient, self-priming pump that uses a combination of airscrew technology and advanced design to meet the most stringent requirements.

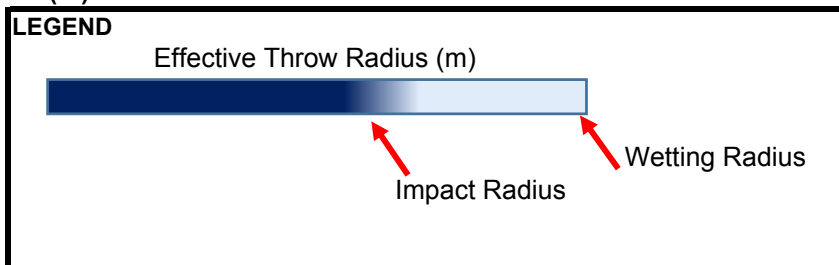
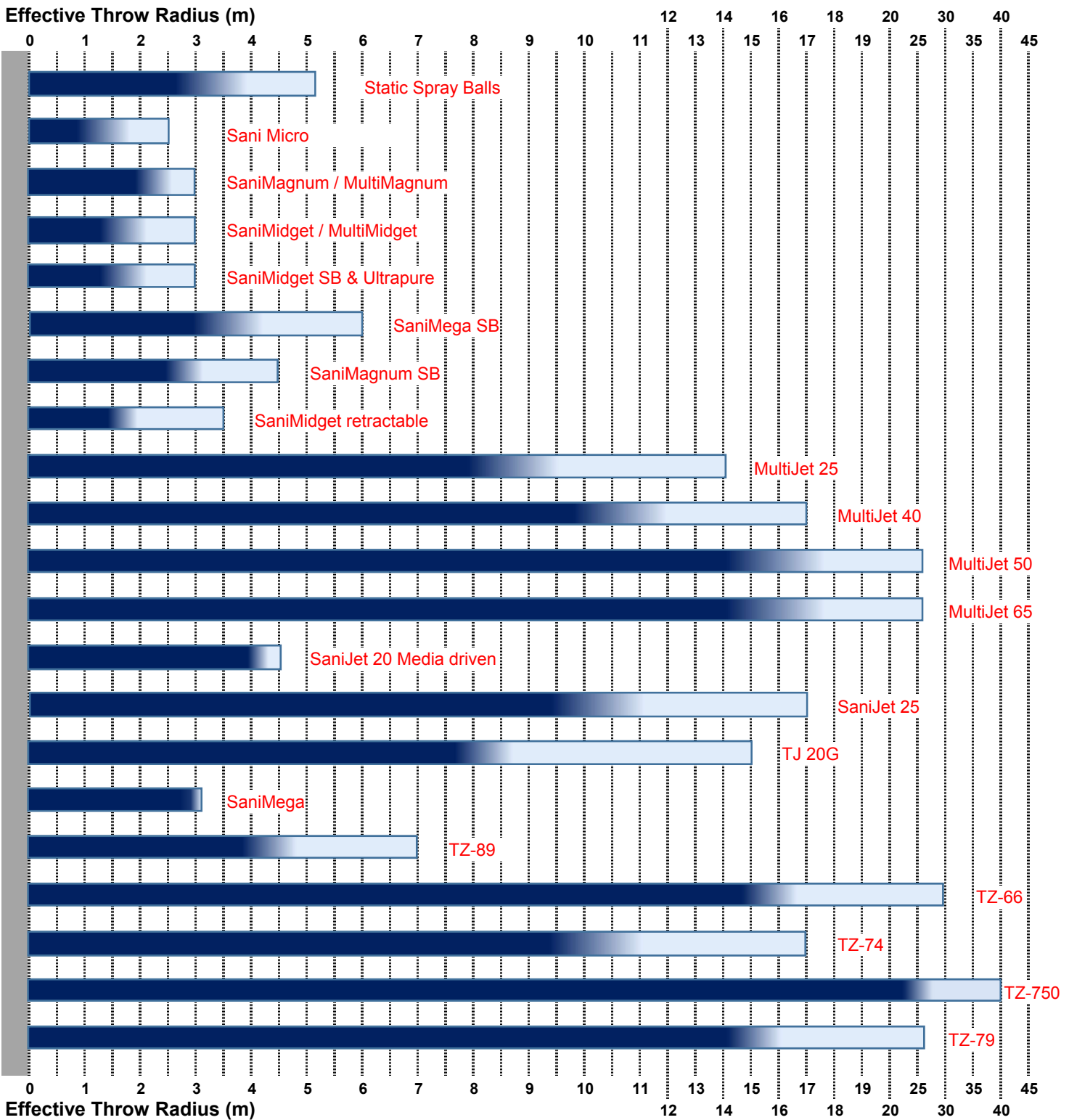


Alfa Laval Rotary Jet Mixer

Secures fast mixing and efficient tank cleaning. It can also be used in combination with the Alfa Laval Hybrid Powder Mixer to improve powder dissolving.

CLEANING HEAD QUICK SELECTION GUIDE

To be used as a selection guide only.
 Detailed selection data is available on the matrixps.com website.
 Or contact your nearest Matrix office for selection assistance.

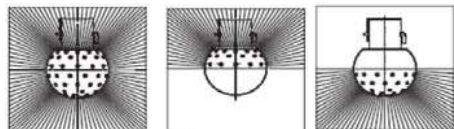


TANK CLEANING EQUIPMENT



LKRK STATIC SPRAY BALLS

Fixed spray balls are used for cleaning storage tanks in the food and beverage industries. Fixed spray balls are used for less demanding cleaning duties



F version T version B version

| | | | |
|--|-----------------------------|--------------|--------------|
| | 3/4" tube, 40mm Ball | | |
| | Code | m3/hr | holes |
| | SB400206 | 3.7 | 1.6mm |
| | cleaning rad: 3.8m @ 1 Bar | | |

| Dia 64mm for 25mm tube with 2mm holes | | | Dia 94mm for 51mm tube with 2mm holes | | Dia 94mm for 51mm tube with 3mm holes | |
|---------------------------------------|------------|-------|---------------------------------------|-------|---------------------------------------|-------|
| Type | Code | m3/hr | Code | m3/hr | Code | m3/hr |
| B | 9611710851 | 7.5 | 9611710951 | 18 | 9611710952 | 42 |
| T | 9611710861 | 8.5 | 9611710961 | 21 | 9611710962 | 44 |
| F | 9611710871 | 11 | 9611710971 | 31 | 9611710972 | 64 |

Toftejorg ROTARY SPRAY HEADS

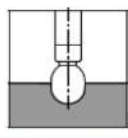
The rotary spray head tank-cleaning devices provide exceptional cleanability, better end-product quality, greater overall output and reduced operating costs. They are designed for hygienic, biotechnology and pharmaceutical applications. Available in various sizes and different configurations covering any tank size.

| Toftejorg Sanimicro | Toftejorg SaniMagnum | Toftejorg MultiMagnum | Toftejorg SaniMidget | Toftejorg MultiMidget |
|---------------------|----------------------|-----------------------|----------------------|-----------------------|
| | | | | |

| | Units | Min | Max | Min | Max | Min | Max | Min | Max | Min | Max |
|----------------|-------|--------------------------|------|--------------------------|-----|---------------------|------|---------------------|-----|--------------------------|------|
| Flow Rate | m3/hr | 1.8 | 2.9 | 7 | 18 | 5 | 18 | 2.2 | 6.5 | 2.5 | 7 |
| Pressure | Bar | 2 | 2 | 1 | 3 | 1 | 3 | 2 | 2 | 1 | 3 |
| wetting radius | M | 2 | 2.5 | 2.2 | 3 | 2.8 | 3 | 2.5 | 3 | 2.4 | 3 |
| Impact radius | M | 0.25 | 0.75 | 1.3 | 2 | 1.8 | 2.01 | 0.85 | 1.4 | 0.9 | 1.45 |
| Patterns | | 360°, 270° up, 180° down | | 360°, 270° up, 180° down | | 360°, 270° up, 180° | | 360°, 270° up, 180° | | 360°, 270° up, 180° down | |



360° 270° up



180° down

| Toftejorg SaniMidget SB 3A | Toftejorg SaniMega SB/3-A rotary spray head | Toftejorg SaniMagnum SB/3-A rotary spray head | Toftejorg SaniMidget SB Ultrapure | Toftejorg SaniMidget Retractable |
|----------------------------|---|---|-----------------------------------|----------------------------------|
| | | | | |

Tanks 23-68 m3

Tanks 68- 227 m3

Tanks 23-68 m3

| | Units | Min | Max | Min | Max | Min | Max | Min | Max | Min | Max |
|----------------|-------|---------------|-----|---------------|-----|---------------|-----|---------------|-----|---------|-----|
| Flow Rate | m3/hr | 3.5 | 9 | 12 | 40 | 8 | 14 | 3.5 | 9 | 4.2 | 9.8 |
| Pressure | Bar | 1 | 3 | 1 | 4 | 1 | 3 | 1 | 3 | 2 | 5 |
| wetting radius | M | | 3 | | 6 | | 4.5 | | 3 | 3 | 3.5 |
| Impact radius | M | | 1.4 | | 3 | | 2.5 | | 1.4 | 1.1 | 1.6 |
| Patterns | | 360°, 270° up | | 360°, 270° up | | 360°, 270° up | | 360°, 270° up | | 270° up | |

OPTIONS

3.1B Certification
0.5um RA Electropolished
Hastelloy C22
Zone 0/20



Toftejorg CLEANING EQUIPMENT



TANK CLEANING EQUIPMENT

MULTIJET

MultiJet rotary jet head tank-cleaning range provide exceptional cleanability, better end-product quality, greater overall output and reduced operating costs. They are designed for industrial application, such as paint, steel, Pulp & Paper, chemical applications.

SaniJet

Designed for hygienic, biotechnology and pharmaceutical applications, Toftejorg Rotary jet head tank-cleaning devices from Alfa Laval provide exceptional cleanability, better end-product quality, greater overall output and reduced operating costs.

TJ

TJ20G rotary jet head tank-cleaning devices provide exceptional cleanability, better end-product quality, greater overall output and reduced operating costs. They are designed for hygienic applications, such as food, dairy, personalcare and beverage.

TZ

T/TZ rotary jet head tank-cleaning range provide exceptional cleanability, better end-product quality, greater overall output and reduced operating costs. They are designed for hygienic applications such as food, dairy and beverage as well as for the marine environment.

| Toftejorg TJ MultiJet 25 Rotary Jet Head | Toftejorg TJ MultiJet 40 Rotary Jet Head | Toftejorg TJ MultiJet 50 Rotary Jet Head | Toftejorg TJ MultiJet 65 Rotary Jet Head |
|--|--|--|--|
| | | | |
| Tanks between 15 and 150 m3 | Tanks between 50 and 500 m3 | Tanks between 250 and 1,250 m3 | Tanks between 3,000 and 7,000 m3 |

| | Units | Min | Max | Min | Max | Min | Max | Min | Max |
|----------------|-------|------|-----|------|-----|------|-----|------|-----|
| Flow Rate | m3/hr | 5 | 15 | 10 | 30 | 17 | 52 | 40 | 87 |
| Pressure | Bar | 3 | 8 | 3 | 12 | 3 | 12 | 3 | 12 |
| wetting radius | M | 9 | 14 | 8 | 17 | 9 | 26 | 9 | 26 |
| Impact radius | M | 4 | 8 | 4 | 10 | 5 | 14 | 5 | 14 |
| Patterns | | 360° | | 360° | | 360° | | 360° | |

| Toftejorg SaniJet 20. Media or Air Driven | Toftejorg SaniJet 25 Rotary Jet Head (EHEDG) | Toftejorg TJ 20G Rotary Jet Head | Toftejorg SaniMega | Toftejorg TZ-89 Rotary Jet Head |
|---|--|----------------------------------|--------------------|---------------------------------|
| | | | | |
| | Tanks between 15 and 150 m3 | Tanks between 15 and 150 m3 | | |

| | Units | Min | Max | Min | Max | Min | Max | Min | Max | Min | Max |
|----------------|-------|------|-----|------|-----|------|-----|---------|-----|---------|-----|
| Flow Rate | m3/hr | 1 | 9.5 | 5 | 15 | 5 | 15 | 21 | 28 | 1.1 | 4 |
| Pressure | Bar | 5 | 8 | 3 | 8 | 3 | 8 | 2 | 4 | 2 | 7 |
| wetting radius | M | | 4.5 | 9 | 17 | 9 | 14 | | | 4 | 7 |
| Impact radius | M | 1.5 | 4 | 4 | 10 | 4 | 8 | 1.8 | 3 | 1 | 4 |
| Patterns | | 360° | | 360° | | 360° | | 270° up | | 270° up | |

| Toftejorg TZ-66 | Toftejorg TZ-67 Portable | Toftejorg TZ-74 Brew Kettle Version Rotary Jet Head | Toftejorg TZ-74 Self cleaning Rotary Jet Head | Toftejorg TZ-750 Portable | Toftejorg TZ-79 |
|-----------------|--------------------------|---|---|---------------------------|-----------------|
| | | | | | |
| | | | | | |

| | Min | Max | Min | Max | Min | Max | Min | Max | Min | Max | Min | Max |
|-------|------|-----|------|-----|------|-----|------|-----|------|-----|------|-----|
| m3/hr | 18 | 50 | 10 | 32 | 12 | 36 | 12 | 36 | 38 | 83 | 18 | 50 |
| Bar | 2 | 12 | 3 | 12 | 3 | 12 | 3 | 12 | 5 | 12 | 3 | 12 |
| M | 9 | 29 | 7 | 17 | 7 | 15 | 7 | 15 | 30 | 40 | 9 | 26 |
| M | 5 | 15 | 4 | 10 | 4 | 9 | 4 | 9 | | | 5 | 14 |
| | 360° | | 360° | | 360° | | 360° | | 360° | | 360° | |

SIGHTGLASS SOLUTIONS

POLYSIGHT



STANDARD DESIGN:


- Tri-Clamp connections
- Polysulfone Lens
- 10 Bar pressure rating
- 130 Deg C Max Internal Temperature. (Ambient external)
- EPDM Elastomers standard.
- 304 s/s or 316 s/s
- FDA, USDA and 3-A Dairy compliant
- Predrilled for quick and easy installation
- Indoor use only. Not suitable for high UV levels. (Outdoors)

No Glass!



POLYSIGHT - Polysulfone Lens. 316 s/s

| Code | Size |
|---------|-------|
| PSK0256 | 25mm |
| PSK0406 | 38mm |
| PSK0506 | 51mm |
| PSK0656 | 63mm |
| PSK0806 | 76mm |
| PSK1006 | 101mm |



POLYCARBONATE


Bullseye sightglass assembly

| Code | Size |
|------|-------|
| | 25mm |
| | 38mm |
| | 51mm |
| | 63mm |
| | 76mm |
| | 101mm |



Polycarbonate sightglass lens (to suit BSM Nut)

| Code | Size |
|---------|-------|
| SGPH025 | 25mm |
| SGPH040 | 38mm |
| SGPH050 | 51mm |
| SGPH065 | 63mm |
| SGPH080 | 76mm |
| SGPH100 | 101mm |
| SGPH150 | 150mm |



Inline and Porthole




LKGG-1 Inline Sightglass - 316s/s (Option with light)

| Code | Size |
|------------|-------|
| 9612141406 | 25mm |
| 9612141407 | 38mm |
| 9612141408 | 51mm |
| 9612141409 | 63mm |
| 9612141410 | 76mm |
| 9612141412 | 101mm |




LKFL INLINE SIGHTGLASS (Option with light)

| Code | Size |
|------------|-------|
| 9611940001 | 38mm |
| 9611940002 | 51mm |
| 9611940003 | 63mm |
| 9611940004 | 76mm |
| 9611940005 | 101mm |



LKS 105 sightglass


| Code | Size |
|-------------|------|
| 3201025271 | 105 |
| 3201025272* | 105 |



*To suit Edel LUX light fitting

LKS 78 and 120 sightglass

| Code | Size |
|-------------|------|
| 9611710101 | 78 |
| 9611710103* | 78 |
| 9611710102 | 120 |
| 9611710104* | 120 |





SIGHTGLASS SOLUTIONS MAX MÜLLER AG

Sightglasses

| | | | | | |
|---------------------------------------|-------------------|----------------------|---|---|---|
| | | | | | |
| PN 0 or similar to DIN 28120 (PN 2.5) | DIN 28120 / 28121 | DIN 11851 Series SSA | DIN 28120 Double glazed with or without heating | DIN 28121 double glazed with or without heating | Hinged sightglass with or without illumination. Series KSG(B) |

Metal fused sightglasses

| | | | | |
|--|--|---|---|---|
| | | | | |
| Metal fused sightglass for triclamp fittings | Metal fused sightglass with wiper series WD for tri-clamp fittings | Metal fused sightglass for NA-connect-connections | METACLAMP sightglasses for NA-Connect connections | Metal fused sightglass flanges for sterile applications |

Sightglass Accessories

| | | | | | |
|-------------------------------------|--------------------------------|--|--|-----------------------------|--|
| | | | | | |
| D-Ended elongated series LSG (R,RR) | Rectangular series RSG (R, RR) | Centrally operated wipers, series W(D), WDT, W(D)R, upto PN6 | Sideways operated wipers. Series WS, upto PN16 | Spraying Devices, Series SV | Sightglass discs with or without central bore hole |

Process illumination

| | | | | | |
|-----------------------------------|------------------------------------|------------------------------------|---|--|---------------------|
| | | | | | |
| Halogen light fitting. Series KLR | Halogen light fitting. Series KVLR | Halogen light fitting. Series HLMR | Halogen and LED light fitting. Series BKVLR | Halogen and LED light fitting. Series HLMR | Series EdelEX d LED |

| | | | | | |
|--|--|--|---|---|---|
| | | | | | |
| Series BKVLR A / BKVLR A LED STERI-LINE for metal fused sightglasses | Series KLR A / KLR A LED STERI-LINE for metal fused sightglasses | Series EdelEx STERI-LINE 5/10/20 dH for metal fused sightglasses for triclamp fittings | Series EdelEx STERI-LINE 5/10/20 dH for metal fused sightglasses for sterile applications | Metal fused sightglass for Tri-clamp fittings for series fibroLUX | Metal fused sightglass for Tri-clamp fittings for series fibroLUX, for "view for light" |

TANK ACCESS COVERS



OVAL DOORS

SIZES

- 440 x 320 mm
- 535 x 435 mm
- 546 x 447 mm

MATERIALS

- 304 s/s
- 316L s/s

ELASTOMERS

- EPDM
- SILICON
- NITRILE
- VITON

PRESSURES

UPTO 2.5 Bar



ROUND DOORS

SIZES

- 202 mm
- 306 mm
- 404 mm
- 418 mm
- 454 mm
- 508mm
- 516 mm
- 608 mm
- 620 mm

MATERIALS

- 304 s/s
- 316L s/s

ELASTOMERS

- EPDM
- SILICON
- NITRILE
- VITON

PRESSURES

UPTO 14.7 Bar



RECTANGULAR DOORS

ROUND DOORS

SIZES

- 184 x 234 mm
- 332 x 440 mm
- 432 x 555 mm

MATERIALS

- 304 s/s
- 316L s/s

ELASTOMERS

- EPDM
- SILICON
- NITRILE
- VITON

PRESSURES

UPTO 1.0 Bar





Do more in less time

Greater versatility. Faster. Our revolutionary rotary jet mixers can handle liquid mixing and gas and powder dispersion in the same tank. It's a simple idea that can cut a brewery's fermentation time by a third, cut mixing times in half, and significantly decrease a beverage producer's investment costs.



www.alfalaval.com

TANK AGITATORS AND MIXERS



Side Mounted Agitators

ALS Side Mounted Agitator

MATERIALS

- 316L s/s Standard
- 304 s/s
- 904L
- SAF 2205
- Other materials on request

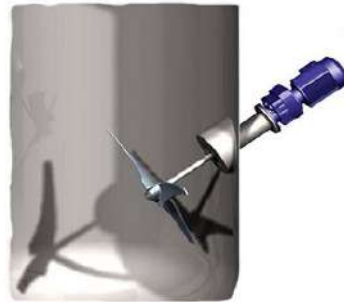
ELASTOMERS

- EPDM
- FPM/FEP
- Other materials on request

PROPELLER

DIA: \varnothing 125mm upto \varnothing 1900mm

3.1b Material certification available.



Top Mounted Agitators

ALT / ALTB, TOP Mounted Agitators

MATERIALS

- 316L s/s Standard
- 304 s/s
- 904L
- SAF 2205
- Other materials on request

ELASTOMERS

- EPDM
- FPM/FEP
- Other materials on request

PROPELLER

DIA: \varnothing 125mm upto \varnothing 1900mm

3.1b Material certification available.



Bottom Mounted Agitators

ALB Bottom Mounted Agitators

MATERIALS

- 316L s/s Standard
- 304 s/s
- 904L
- SAF 2205
- Other materials on request

ELASTOMERS

- EPDM
- FPM/FEP
- Other materials on request

PROPELLER

DIA: \varnothing 125mm upto \varnothing 1900mm

3.1b Material certification available.



TANK AGITATORS AND MIXERS

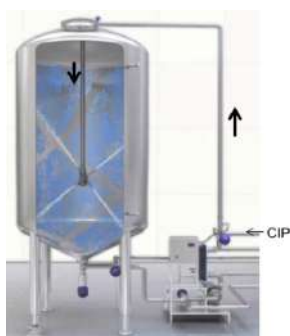


ISO-MIX Rotary Jet Mixer

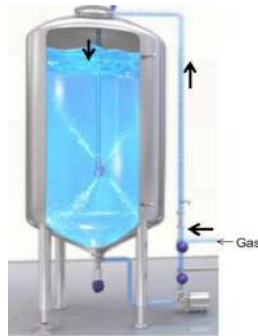
Liquid, Gas and Powder mixing

| | | | |
|---|---|---|---|
|  |  |  |  |
| IM 10. vessel size 1-10m ³ | IM 15. vessel size 2-100m ³ | IM 20. vessel size 5-200m ³ | IM 25. vessel size 10-1000m ³ |

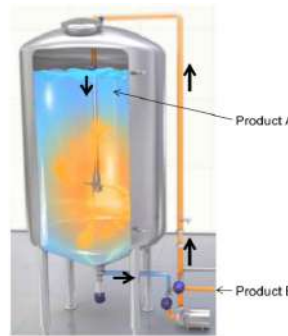
- Superior Mixing
- No Mechanical seals
- Lower operating costs
- Integrated tank cleaning solution
- Increased production capacity
- Simple Retrofit
- Blending Liquids / Gases / Powders



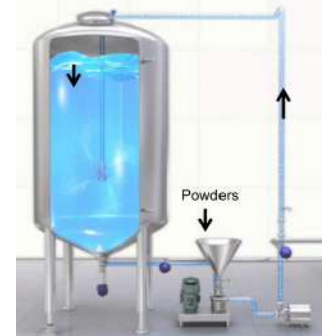
Cleaning



GAS Dispersion



Rapid temperature change



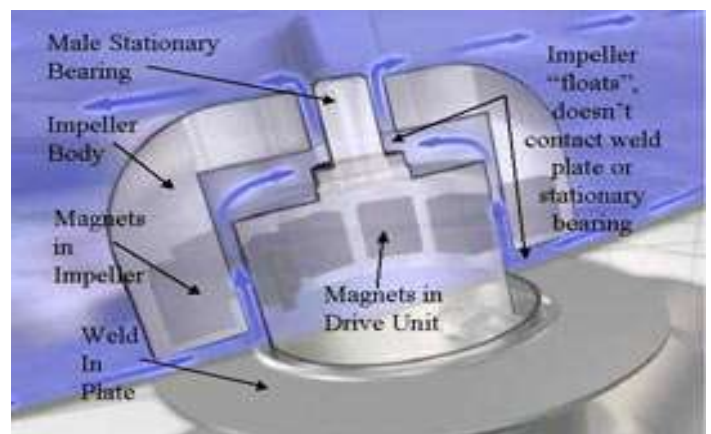
Powder addition

MAG Mixer Technology

Magnetic Mixing Technology

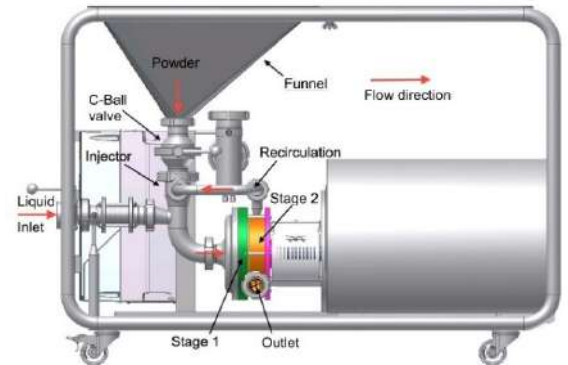
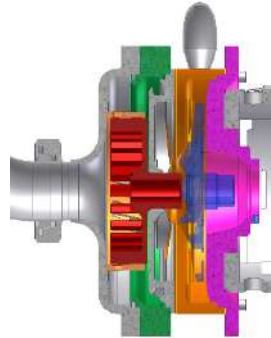
Patented Levitated (Floating) Impeller
Strong magnetic coupling keep the impeller levitated at all times at stand-still as well as in motion

- No Axial Contact Between Stator and Rotor
- No friction
- No bearing wear
- No particle generation
- Low shear
- Can run dry
- Achieve high RPM



MIXING TECHNOLOGY

Hybrid Powder mixer



Application

The Alfa Laval Hybrid Powder Mixer is a patented hygienic mobile unit that both disperses powders into liquids quickly and efficiently and pumps the resulting solution at outlet pressures of up to ~5barg, all using a single motor. This versatile, easy-to-use mixer produces homogeneous products at high dry matter concentrations and high productivity.

Stage1 (rotor-stator stage):

After powder is in the funnel, the valve (C-Ball valve) under the funnel is opened. This is the only valve that the operator must control during mixing.

The injector positioned under the valve creates an under pressure (over the flow from the recirculation pipe from stage2) in the funnel outlet. The injector makes the pre-blend and draws the powder into the rotor-stator and blending the powder and liquid into a homogenous mixture.

Stage2 (pump stage):

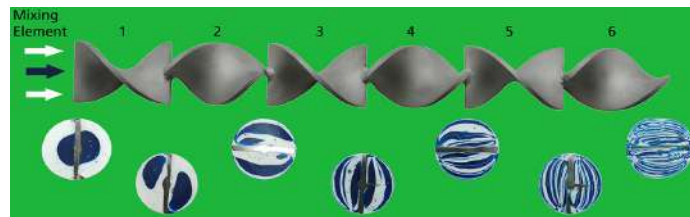
An impeller pumps the powder-liquid mixture at pressures of up to 4 bar back to the tank while part of the powder-liquid mixture is sent through the injector back to Stage 1

STATIC INLINE MIXERS



Sanitary Helical Static Mixer

Sanitary design helical static mixing units are available in 1" – 3-1/2" tubing sizes. They are of sanitary design with tri-clamp flanges suitable for use in the food, pharmaceutical, cosmetic, beverage and other industries.



Sanitary Segment Static Mixer

Segment style inline static mixer. Designed to allow for easy extension of mixing capacity by simply adding another element. They are of sanitary design with tri-clamp flanges suitable for use in the food, pharmaceutical, cosmetic, beverage and other industries.



Helical Static Mixing Elements only

Helical mixing element assemblies in metal construction are available in 316L S/S to fit virtually any pipe size. Standard sizes are made to fit Sch. 40 pipe, however mixing elements can be made to fit most pipe diameters. Sizes range from 0.25" – 12" diameter.



Blend wet and dry ingredients together quickly and precisely with the Ampco PM Powder Mixer. The PM Powder Mixer will save time and money by providing optimal mixing consistency and reduced processing time. The PM Powder Mixer is set in-line so there is no limit to the batch size.

Mixing begins in the SP pump - the mixture flows through a short transfer tube into the Shear Blender.

The SBH Shear Blender runs at high speed to thoroughly continue to mix the fluid and powder.



SBH Shear pump

MIXING TECHNOLOGY

AMPCO PM POWDER INDUCTION BLENDER



AMPCO SB SERIES SHEAR PUMPS

SB SHEAR BLENDER

The SB Shear Blender offers flexibility for a variety of products. The clearance of the Ampco SB Shear Blender can be adjusted with the use of simple shims (provided) to get the blend quality desired. To avoid damage to the product, the SB Shear Blender is the best choice for sensitive applications.



MODEL SB

Max Flow: 45.4 m3/Hr
Max Discharge: 3.44 Bar

SBH SHEAR BLENDER

The SBH Shear Blender maximizes shear-area by having several rows of rectangular teeth that mesh with each other at close clearances. This is the best blender for improving process time when the highest shear is desired.



MODEL SBH

Max Flow: 45.4 m3/Hr
Max Discharge: 3.44 Bar

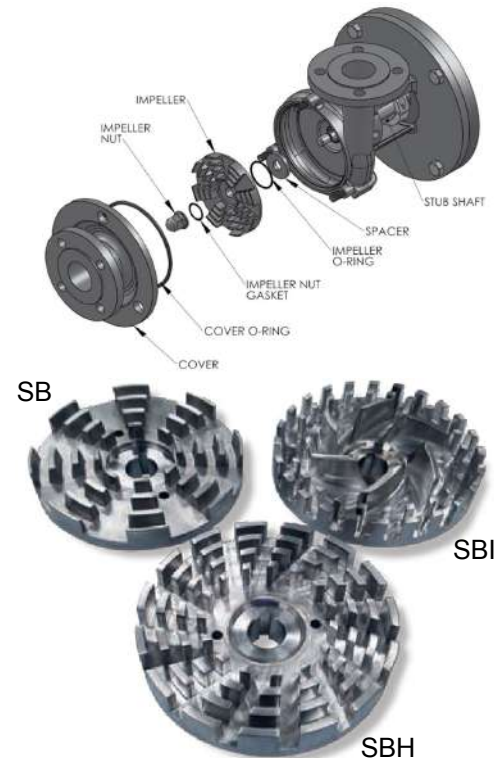
SBI SHEAR BLENDER

The SBI Shear Pump moves the product with considerable capacity and pressure capabilities. This is achieved through a hybrid design of a fine-tuned impeller paired with rectangular shear teeth. Users will be surprised at the performance of this pump as a replacement to a feed pump and blender setup for certain applications.



MODEL SBI

Max Flow: 45.4 m3/Hr
Max Discharge: 6.9 Bar



HEAT EXCHANGERS



CB Brazed plate heat exchanger

Copper brazed plate heat exchangers provide efficient heat transfer with a small footprint. They are used in HVAC heating/cooling, refrigeration, process heating/cooling, oil cooling, solar heating and many other applications.



Alfa Nova plate heat exchanger

AlfaNova fusion-bonded plate heat exchangers are made of 100% stainless steel. They are suited in applications which put high demand on cleanliness, applications where aggressive medias like ammonia are used or where copper and nickel contamination is not accepted. AlfaNova heat exchangers are used in applications such as: HVAC heating/cooling, refrigeration, process heating/cooling and oil cooling. The AlfaNova line has an extreme pressure fatigue resistance and covers high temperatures (up to 550°C/1022°F).



BASELINE Gasketed plate heat exchanger

Alfa Laval BaseLine plate heat exchangers are designed for gentle food and pharmaceutical applications. Its modular design offers different combinations of plates and frames to cover a wide range of applications, including all general heating and cooling duties, and small capacity pasteurisation.



CLIPLINE Gasketed plate heat exchanger

Alfa Laval ClipLine has a flexible design with tailor-made plates for demanding hygienic applications. It is particularly useful for small duties or tests in small-scale laboratory rigs. The plate pattern and the pressing depth are designed for gentle, uniform heat transfer for sensitive dairy, food and beverage products. The glue-free gaskets are made with FDA-compliant materials which are easy to maintain and have a long service life.



FRONTLINE Gasketed plate heat exchanger

FrontLine plate heat exchangers are tailor made for food and pharmaceutical applications. They can meet the most demanding requirements in hygiene, while promoting production uptime and saving energy. They can handle fluids with fiber or viscous products, high pressure and high temperature pasteurisation, and very gentle cooling.



INDUSTRIAL LINE Gasketed plate heat exchanger

Alfa Laval Industrial line is a wide product range that is used in virtually all types of industry. Suitable for a wide range applications, this model is available with a large selection of plate and gasket types.



APPLICATIONS

Biotech and Pharmaceutical
Chemicals
Energy and Utilities
Food and Beverages
Home and Personal care
HVAC and Refrigeration

Machinery and Manufacturing
Marine and Transportation
Mining, Minerals and Pigments
Pulp and Paper
Semiconductor and Electronics
Water and Waste treatment



HEAT EXCHANGERS



M-LINE Gasketed plate heat exchanger

Alfa Laval M line is a range of gasketed plate-and-frame heat exchangers used in dairy, food, beverage and other hygienic applications. M line is used when the design pressure is above 10 barg (145 psig) or when long plate packs are required. A large range of plate and gasket types is available.

M-Line plate heat exchangers are the ideal choice for use in pasteurisation and general cooling/heating of dairy and brewery products, fruit juices and similar food products.



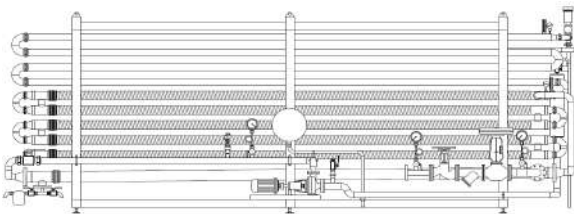
Single Scraped Surface heat exchanger

The Contherm scraped-surface heat exchangers are designed for heating and cooling operations in the continuous and semi-continuous processing of many food, health and beauty aid products.

The CONTHERM SSHE is particularly suited for processing viscous, sticky or chunky (containing particulates) products that are to be pumped.

VISCO LINE Tubular heat exchanger

Alfa Laval ViscoLine™ is a range of highly efficient tubular heat exchanger types that incorporates corrugated tubes or other advanced profiles designed to increase turbulence in the flow of the media to be cooled. This substantially increases the overall heat transfer coefficient



PHARMA LINE Tubular heat exchanger

Alfa Laval Pharma-line is a double tube sheet shell-and-tube heat exchanger that can be delivered in a variety of sizes and options, with special designs available on request. This flexibility makes it suitable for almost any hygienic application, whatever the demands. Typical uses include water systems, water for injection, purified water and Cleaning-in-Place systems, as well as general product heating and cooling duties.



PHARMA X - 'Point of use' Tubular heat exchanger

A compact heat exchanger module developed for point of use cooling in pharmaceutical water systems.

Alfa Laval Pharma-X is designed to remain sanitised even when not in use (standby mode).

Fast and efficient

The low hold-up volume and quick heat exchanger response mean cold water is available within seconds and waste of water for injection and purified water is minimised.



ALL BRANDS HEAT EXCHANGER PLATES AND GASKETS



For more than 40 years MCD has been manufacturing plate heat exchanger gaskets for the following makes: APV, AGC, Alfa Laval, Arsopi, Barriquand, Cetetherm, Ciat, Cipriani, Fischer, Fiorini, GEA, Hisaka, Mueller, Pasilac, Reheat, API Schmidt Bretten, Silkeborg, Sondex, Swep, Tranter, Vicarb etc...

From the origin of MCD, the manufacturing of gaskets has been fully mastered internally.

Whatever the gasket, this guarantees to the customer the full traceability throughout the different steps of the manufacturing and quality control.

MAJOR BRANDS OFFERED

- | | |
|---------------|-----------|
| Alfa Laval | Reheat |
| APV | Schmidt |
| APV - Pasilac | Silkeborg |
| Barriquand | Sondex |
| Corblin | Sordi |
| Fischer | Stork |
| GEA Ahlborn | Tetra Pak |
| Hisaka | Tranter |
| Nagama | Vicarb |



manual preparation of the raw material



compression moulding



manual trimming



ALL BRANDS HEAT EXCHANGER PLATE AND GASKETS

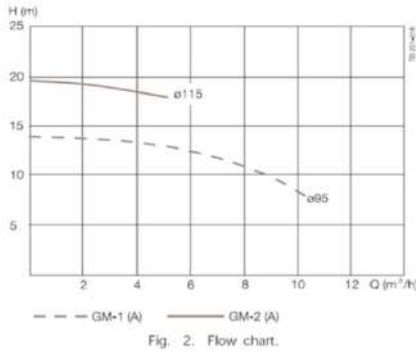


mcd PLATES & GASKETS

| ALFA LAVAL | | | | | APV | | | | |
|--|-----------|---------------|------------|--|---------|--------------------|------------------|-------------------------------------|---------|
| A10 | CLIP10 | M3X | P14/L1 | PAR01 | AO55 | HX | N25 | R5 | SR6AG |
| A10B | CLIP6 | M6 | P145 | PAR22 | AO85 | J060 | N35 | R55 | SR6GH |
| A15 | CLIP8 | M6M | P15 | T200 | B063L | J092 | N35DS | R6 | SR6GL |
| A15B | EC500 | M6MD | P16 | T20B | B063S | J107 | N35PA | R66 | SR9 |
| A15BW | H10 | M6MW | P17 | T20P | B110L | J185 | N50 | R6AH | SR9PA |
| A20 | H7 | MA30M | P2 | TL10B | B134L | JUNIOR | P105 | R8G1 | T4 |
| A20B | JWP26 | MA30S | P20 | TS6M | B134S | K34 | P190 | SD9 | TR1 |
| A3 | JWP36 | MK15BW | P225 | TS20M | B158L | K65 | PE SER III (FFF) | SR1 | TR9AL |
| A35 | M10B | MS10 | P25 | | B158S | K55PA | QD030 | SR144D | TR9AV |
| AK20 | M10BD | MS15 | P252 | | B205L | K71 | QD055 / QE055 | SR14AH | TR9GL |
| AM10 | M10BW | MS6 | P26 | | B205S | K71PA | QD080 / QE080 | SR14AN | TR9GN |
| AM20 | M10M | MX25B | P30 | | CHF130 | LD9AL | R10 | SR14AP | U2 |
| AM20B | M15B | MX25M | P31 | | FFPE | LD9GL | R106 | SR14GD | WHX |
| AM20DW | M15F | P12/122 | P32 | | H12 | LR9AL | R14 | SR15PE | |
| AM20N | M15M | P12/124 | P36 | | H17 | LR9GL | R145 | SR2 | |
| AM20S | M20M | P13 | P41 | | H17DS | M107 | R23 | SR23PV | |
| AM20W | M20MW | P132 | P45 | | H17PA | M185 | R235 | SR23VO | |
| AX30 | M3 | P135 | P5/1 | | HMB | M60 | R40 | SR3 | |
| AX30B | M30 | P14 | P5/2 | | | M92 | R405 | SR6AA | |
| ARSOPI | | AGC | | BARRIQUAND | | | BELL & GOSSETT | | |
| FH01 | FH80 | PRO5 | R145 | R325 | RB25 | UFX42 | GPX1152 | GPX258 | GPX678 |
| FH10 | FHE11 | | R205 | R33 | RB35 | UFX51 | GPX130 | GPX258B | GPX907 |
| FH20 | FHE15 | | R25 | R35 | UFX100 | UFX64 | GPX161 | GPX463 | GPX850B |
| FH30 | FHS41 | | R265 | R36 | UFX12 | UFX85 | GPX1980 | GPX538 | |
| FH40 | FHS43 | | R31 | R50 | UFX18 | UFX91 | GPX237 | GPX538B | |
| | | | R32 | R85 | UFX26 | | | | |
| CETETHERM | | | | CIAT | | DONGHWA | | FISCHER | |
| CT100 | CT180 | EP100 | EP180 | PW12 | S15 | S65 (FKM only) | E5 | E28P1 | |
| CT110 | CT240 | EP110 | EP240 | PW17 | S20 | | E8 | E40 | |
| CT120 | CT280 | EP120 | EP90 | | | | E18 | E40P1 | |
| CT130 | CT450 | EP130 | | CORBLIN | | FIORINI | | E28 | E61P1 |
| CT140 | CT90 | EP140 | | 1020/1025 | H3 | H6F | | E100 | |
| CT150 | CT95 | EP150 | | | H4 | H7F | | | |
| CT160 | | EP160 | | DMS | | FUNKE | | | |
| CT170 | | EP170 | | S38 | FPS30 | FPS39 | FPS50 | FPS65 (FKM only) | |
| GEA | | | | HISAKA | | | ITT STANDARD | | |
| FA157 | NT150L | VT1309 | VT40L | EX11 | RX30A | UX20 | PF15 | PF40 | PF60 |
| FA159 | NT150S | VT130F | VT40ML | EX15 | RX70 | UX20A | PF20 | PF42 | PF65 |
| FA161 | NT250L | VT130K | VT40P | LX10A | SX41 | UX30 | PF25 | PF45 | PF75 |
| FA184 NG/WG | NT250S | VT20 | VT40PL | VT20 | SX43 | UX30A | PF50 | PF60 | |
| FA192NG/WG | NT350S | VT20L | VT80S | LX30A | SX90 | UX40 | PF35 | PF51 | |
| N40 L | VT04P | VT20PL | VT80L | LX40 | UX01 | UX80 | | | |
| NT100T | VT10 lat | VT2508 | VT80ML | LX50A | UX10 | UX90 | | | |
| NT100X | VT1306 | VT40 | VT80PL | RX10A | UX10A | | | | |
| | | | | | | | Iwai | | |
| | | | | | | | GHX | | |
| KAPP | | KRASHING Ing. | | MUELLER | | | | NAGEMA | |
| FH01 | FH80 | UF100 | UF42 | AT20PL | AT80ML | AT80 | NAGEMA | | |
| FH10 | FHE11 | UF12 | UF51 | AT161 | AT192 | AT1306 | | | |
| FH20 | FHE15 | UF18 | UF64 | AT40FF | AT10 | | | | |
| FH40 | FHS41 | UF26 | UF85 | AT184FF | AT20 | | | | |
| | FHS43 | | UF91 | | | | | | |
| PASILAC | | | POLARIS | | REHEAT | | | | |
| 1025 | 1080 | 1730 | S15 | S39 | HX12 | HX325 | MF56 | UFX42 | |
| 1050 | 1095 | 1733 | S20 | S50 | HX145 | HX50 | MF59 | UFX51 | |
| 1056 | 1715 | 1736 | S30 | S65 (FKM only) | HX180 | HX85 | UFX100 | UFX64 | |
| 1065 | 1717 | 1739 | S36 | | HX205 | MF138 | UFX12 | UFX91 | |
| 1070 | 1727 | | | | HX25 | MF257 | UFX18 | | |
| | | | | | HX265 | MF276 | UFX26 | | |
| SCHMIDT | | | SENTRY Eq. | | SONDEX | | | SORDI | |
| SIGMA 114 | SIGMA 32 | SIGMA M106 | SPGX26 | S100 (S) | S30 (G) | S47 (G) | SORDI | | |
| SIGMA 16 | SIGMA 37 | SIGMA M66 | SPGX42 | S120 (G) | S35 (G) | S47 (S) | | | |
| SIGMA 17 | SIGMA 52 | SIGMA X19 | SPGX51 | S15 (G) | S38 (S) | S50 (G) | | | |
| SIGMA 22 | | SIGMA X29 | | S20 (G) | S39 (G) | S65 (G) (FKM only) | | | |
| SIGMA 27 | SIGMA 65 | STAR 45 | | S22 (G) | S43 (G) | S65 (S) | | | |
| SIGMA M27 | SIGMA 64 | STAR 90 | | S22 (S) | S43 (S) | S8 (S+G) | | | |
| SIGMA 30 | SIGMA 85 | | | | | | | | |
| SWEP | | | | TRANTER | | | | | |
| G102 | GX100 | HX180 | UX10 | 11T | GFP187 | GX18 | GXD100 | HX85 | UX066 |
| G108 | GX12 | HX25 | UX80 | | GM138 | GX26 | GXD145 | HXD012 | UX06T |
| G153 | GX145 | HX50 | | GCP026 | GM257 | GX42 | GXP018 | HXD025 | UX10 |
| G157 | GX18 | HX85 | | GCD054 | GM276 | GX51 | GXP026 | HXD050 | UX20 |
| G158 | GX26 | MF138 | | GCD065 | GM56 | GX64 | GXP042 | HXD085 | UX40 |
| G234 | GX42 | MF257 | | GFD057 | GM59 | GX85 | GXP051 | HXD145 | UX801 |
| G52 | GX51 | MF276 | | GF097 | GX012 | GX91 | GXP118 | HXD180 | UX81 |
| G58 | GX64 | MF56 | | GF187 | GX018 | GXD012 | HX012 | HXP050 | UXP005 |
| G65 | GX91 | MF59 | | GFP030 | GX026 | GXD018 | HX025 | S3 | UXP010 |
| GC85 | | | | GFP050 | GX042 | GXD026 | HX050 | S8 | UXP060 |
| GF138 | | | | GFP057 | GX051 | GXD042 | HX085 | TW10 | UXP200 |
| GF257 | | | | GFP080 | GX064 | GXD051 | HX12 | TW18 | UXP400 |
| GF276 | | | | GFP097 | GX091 | GXD064 | HX180 | TW5 | UXP801 |
| GF59 | | | | GFP100 | GX100 | GXD085 | HX25 | UX01 | UXP900 |
| | | | | GFP180 | GX12 | GXD091 | HX50 | UX05 | |
| THERMALINE | | | | TETRA PAK | | | | | |
| T4 | T120 | T28 | T45 | M3XBASE | M6BASE | M6MBASE | M10BBASE | M10MBASE | |
| !!! Old Thermaline range = copy of Vicarb plates | | | | C6 | C8 | C10 | FRONT6 | FRONT8 | FRONT10 |
| VICARB | | | | Others types : on request | | | | Certification | |
| V100 | V130 snap | V28 | V80 | Material: | | | | - FDA: Code CFR21-§ 177.2600 | |
| V110 RT | V130DW | V28 snap | V80DW | NBR | | | | - A Standard N°18-03 - Class I and | |
| V120 | V180 | V4 | V7 | HT NBR (peroxyde) | | | | Polish National Institute of Hygien | |
| V13 | V20 | V45 | V85 | Hydrogenated NBR | | | | FNOR XP ENV 1186, chapter 1.2 | |
| V13 DW | V20 snap | V45 snap | VU12 | EPDM - Peroxyde | | | | - Arrêté du 09 Novembre 1994 | |
| V13 snap | V20DW | V45DW | | Butyl - IIR | | | | | |
| V130 | V20DW | V45DW | | FKM types A, B, G | | | | | |
| | V260 | V55 | | - Component Viton™ Dupont Dow Elastomers | | | | | |

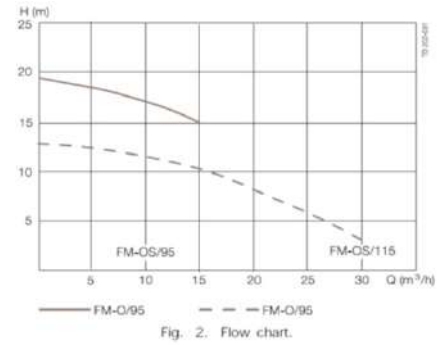
PROCESS PUMPS

GM-1A, 2A



The GM centrifugal pump is specially designed for food, chemical, pharmaceutical and other industries where acid resistant steel is required. The GM is a small scale centrifugal pump for sanitary applications.

FM-OS



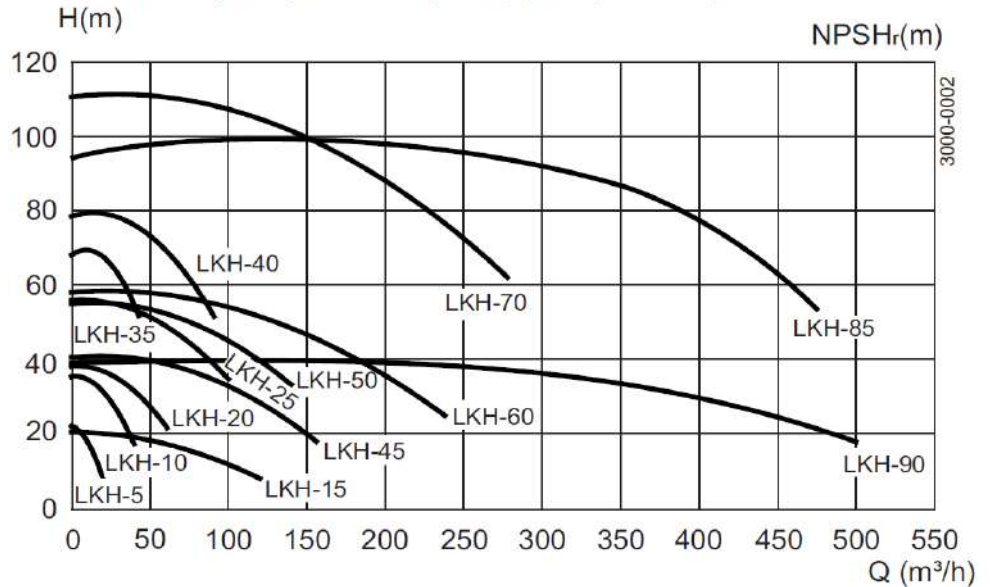
Centrifugal pump FM-OS is designed for use in food, pharmaceutical, chemical and other industries where acid-resistant steel is required. The FM is a small scale centrifugal pump for sanitary applications.

LKH CENTRIFUGAL PUMPS



- Gentle product treatment
- CIP Design
- Low Power consumption
- Low NPSHr
- Low Noise
- EHEDG Compliant
- 3A authorised
- Easy conversion from single to flushed shaft seal or double mechanical shaft seal

Flow chart Frequency: 50 Hz Speed (synchr): 3000 rpm



LKH Ultrapure



LKH UltraPure centrifugal pumps deliver maximum uptime and high efficiency, and offer the benefits of easy cleanability and thorough documentation. They are designed to meet the specific demands of the biotech and pharmaceutical industries. All Alfa Laval Ultrapure equipment are delivered with the standard Alfa Laval Q-doc documentation package.

LKHPF Filtration Centrifugal Pump for High Inlet Pressure



The LKHPF pump is a highly efficient and economical centrifugal pump, specially designed for high inlet pressures, e.g. for use in filtration systems. The LKHPF pump meets the requirements of sanitary and gentle product treatment and chemical resistance, and is available in nine sizes, LKHPF-10, -20, -25, -35, -40, -45, -50, -60, -70.

LKH Multistage



LKH-110 and -120/P are highly efficient and economical multistage centrifugal pumps, which meet the requirements of sanitary and gentle product treatment and chemical resistance. Both the LKH-110 and the LKH-120/P are available in 3 sizes, LKH-112, -113, -114 and LKH-122/P, -123/P, -124/P respectively, for 2, 3 and 4 stages.

LKHI Pump for 16 bar inlet pressure



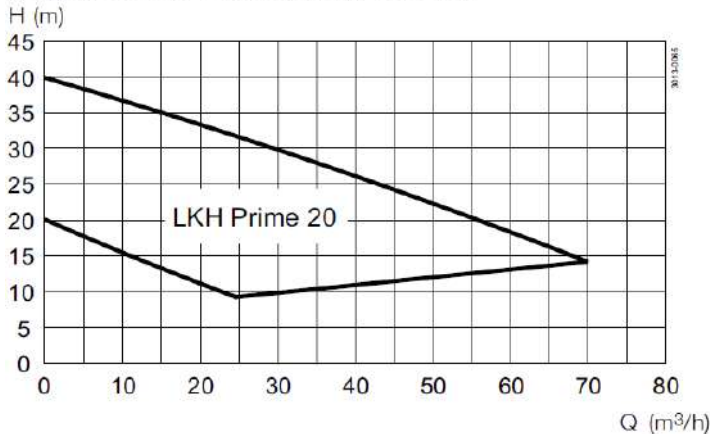
The LKHI pump is a highly efficient and economical centrifugal pump, specially designed for inlet pressures up to 16 bar. LKHI meets the requirements of sanitary and gentle product treatment and chemical resistance, and is available in nine sizes, LKHI-10, -15, -20, -25, -35, -40, -45, -50, -60.



PROCESS PUMPS

LKH Prime

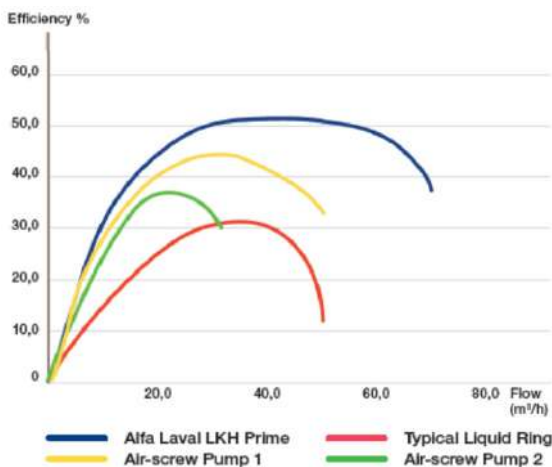
Frequency: 50Hz - Speed (synchr): 3000 rpm



Alfa Laval LKH Prime is an efficient, versatile and hygienic self-priming pump that uses a combination of air-screw technology and advanced design to meet the most stringent requirements in a range of hygienic industries including food, dairy, beverage, home and personal care. Primarily used for Cleaning-in-Place duties containing entrained air, it can also pump product, reducing capital investment.

Alfa Laval LKH Prime is a cost-effective self-priming pump that reduces energy consumption and CO2 footprint. Trimming the impeller to match the exact duty conditions lowers power requirements and installation costs.

Alfa Laval LKH Prime is up to 60% more efficient than traditional liquid ring pumps and up to 25% more efficient than other air-screw pumps – over a wider performance envelope (see graph). It operates with 80% less noise than traditional liquid ring pumps.

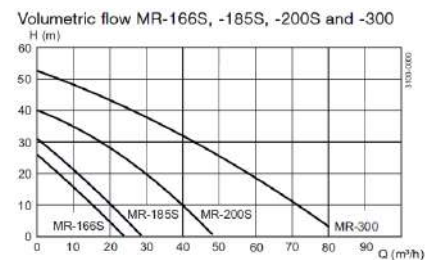


LKH Prime ultrapure

The LKH Prime UltraPure is a highly efficient self-priming pump, which meets the requirements of pharmaceutical industries. The ability to evacuate air from the suction pipe combined with a low noise level and high pumping efficiency makes the LKH Prime UltraPure ideal for tank emptying and CIP return applications. With verified effective CIP cleanability, LKH Prime UltraPure can be used as a product pump as well.



MR LIQUID RING PUMPS



MR is a liquid-ring pump specially designed for pumping liquids containing air or gas.

The pump is for use in food, chemical, pharmaceutical and similar industries.

The pump is mainly used for CIP-return application.

ROTARY LOBE PUMPS



The SSP range of rotary lobe pumps is one of the most comprehensive on the market today, providing the optimum solution for a wide variety of applications with flow rates up to 680m³/h and differential pressures up to 20 bar. The portfolios comprises of the stainless Series S, X, L and N, together ductile iron Series D, and the engine to order Series A and G rotary lobe pumps.

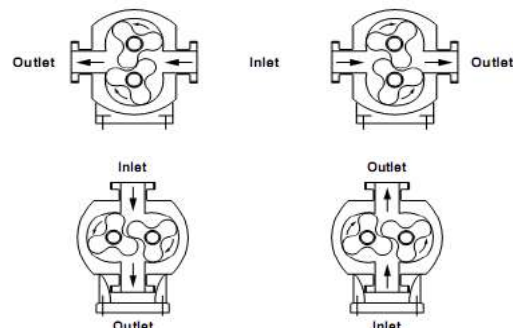


S SERIES

SSP Series S stainless steel rotary lobe pumps fulfil a wide range of application requirements throughout Chemical, Food, Pharmaceutical and other related industries.

The Series S pump range has twelve pump head displacements ranging from 0.053 litres/rev to 3.53 litres/rev.

- Flow rates up to 106 m³/h
- Differential pressures up to 20 bar
- Port sizes from 25 mm to 150 mm diameter



X SERIES

SSP Series X stainless steel rotary lobe pumps are used throughout industrial and clean processes worldwide. Series X pumps are EHEDG accredited (European Hygienic Equipment Design Group) for the highest level of cleanability.

The Series X pump range has fourteen pump head displacements ranging from 0.05 litres/rev to 3.80 litres/rev.

- Flow rates up to 115 m³/h
- Differential pressures up to 15 bar
- Port sizes from 25 mm to 150 mm diameter



L SERIES

SSP Series L stainless steel rotary lobe pumps provide the simple solution to many processes, fulfilling a wide range of application requirements throughout various industries worldwide.

Series L pumps are EHEDG accredited (European Hygienic Equipment Design Group) for the highest level of cleanability.

The Series L pump range has six pump head displacements ranging from 0.17 litres/rev to 0.82 litres/rev.

- Flow rates up to 48 m³/h
- Differential pressures up to 8 bar
- Port sizes from 40 mm to 80 mm diameter



M SERIES

SSP Series M stainless steel gear pumps have been designed for low volume fluid transfer duties for application areas such as filling machines, dosing and sampling, throughout Chemical, Food, Pharmaceutical and other related industries.

Stainless steel and PTFE components combined in a traditional gear pump construction provide easy cleaning and simple maintenance.

The Series M pump range has three pump head sizes.

- Flow rates up to 1500 l/h
- Differential pressures up to 7 bar



ROTARY LOBE PUMPS

SSP Series N stainless steel rotary lobe pumps have been designed for low volume fluid transfer duties within application areas such as laboratories, pilot plants, chemical processing, food processing, electroplating and film processing.

The Series N pump, being small in size, is ideal for installations where space is restricted..

The Series N pump range has two pump head displacements, 2.05 litres/100 rev and 3.86 litres/100 rev.

- Flow rates up to 2300 l/h
- Differential pressures up to 7 bar
- Port sizes from 1/4 in (6 mm) to 1 in (25 mm) diameter

N SERIES



SSP Series D ductile iron rotary lobe pumps fulfil positive transfer duties throughout industry where the use of stainless steel for pumphead components is not essential, within application areas such as Petrochemicals, Chemical, Paper, Paints and Polymers, Petfood, Chocolate and Sugar.

Series D pumps also cover a wide span of sludge transfer duties throughout the environmental and industrial waste treatment processes. Transfer duties include Primary, Secondary and Humus Desludging, Thickener, Digester and Filter press Feed and Tanker loading.

The Series D pump range has nine pump head displacements ranging from 0.79 litres/rev to 6.00 litres/rev.

- Flow rates up to 180 m³/h (up to 126 m³/h on sludge)
- Differential pressures up to 15 bar (up to 5 bar on sludge)
- Port sizes from 80 mm to 150 mm diameter

D SERIES



Series A & G rotary lobe pumps are designed for high volume fluid transfer and are amongst the worlds largest pumps of their type.

Series A is manufactured from Stainless steel. Series G is manufactured from Ductile Iron.

Both Series A & G pump ranges have five pump head displacements ranging from 660L/100revs to 2727 L/100revs

- Flow rates up to 680 m³/hr
- Differential pressures up to 10 Bar
- Port sizes from 150 mm to 305 mm diameter

A & G SERIES



SSP Single Disc pumps are designed for use within effluent processes for pumping sludges and other waste media having entrained solids.

SSP Single Disc pumps are ideal for primary tank manual and auto de-sludging duties.

Other applications include digested and humus sludge, raw sewage, abattoir and poultry wastes, and other industrial waste products.

Flow rates up to 24 m³/hr

Differential pressures up to 1.5 bar

Sludge thickness content up to 6%

SINGLE DISC



SSP Dual Disc pumps are designed for use within effluent and industrial treatment processes where arduous duties in harsh conditions exist. The Dual Disc design with its cost effective easy maintenance eliminates the shaft sealing and valve problems inherent in other pump types on arduous duties. Where dry running and high spares costs are known problems with other pump technologies, such as Progressing Cavity pumps which are traditionally used on lift applications, the use of SSP Dual Disc pumps can result in a reduced lifecycle cost (LCC).

Flow rates up to 52 m³/h

Differential pressures up to 3 bar

Sludge thickness content up to 10%

Suction lift up to 6 metres max.

DUAL DISC



Ampco Pumps



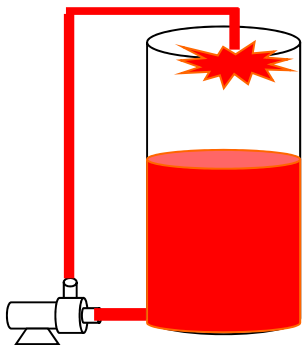
PROCESS PUMPS

- 100% stainless steel, wetted parts made of 316L stainless.
- Consistent, virtually pulsation-free operation allows for gentle handling of product, maintains visual integrity, and meters output precisely.
- Fully CIP-able.
- Difficult to empty lines and vessels benefit from the low NPSH requirements and high suction rates.
- Handles solids delicately without damage to product.
- Able to pump product with up to 60% entrained air, eliminating air locking.
- Reduces product loss with bidirectional flow for product recovery.
- Ideal for handling abrasive products.
- Self-priming.
- Completely drainable.
- Multiple seal options available.
- Meets 3A Sanitary Standards.

QTS SERIES TWIN SCREW PUMP



| | |
|----------------------------|---------------------|
| Viscosity Range: | <1 to 1,000,000 cPs |
| Flow Rate Range: | 0.02 to 279 m3/hr |
| Max Differential pressure: | 20 Bar |
| Speed rating: | 10 to 3000 rpm |



AC SERIES PUMP (wine pump over)

The AC series range of centrifugal pumps is designed for a wide range of applications where sanitary stainless steel wetted components are essential to maintain hygienic processing standards. The pump is ideally suited to applications in the wine industry. With a special clean sweeping impeller blade design, and large clearances it is typically used where products may contain a high degree of solids or pre-processing foreign particles.



Front loading seals are located closer to the product flow, offering improved CIPability with no disassembly required.

Front loading seals allow for ease of maintenance and reduced service time.

EHEDG certified and in conformance with 3A sanitary standards and the ATEX directive.

The seal is a balanced design which generates less heat and promotes longer seal life.

Cover design maximises exposure of the cover oring to the CIP fluid.

Free drain design improves CIP-ability while maintaining maximum pump efficiency.

Elimination of dead zones in the shaft bore improves cleanability and increase seal life.

CIP holes in rotor ensure turbulent flow to the cover hub.

ZP3 SERIES PUMP



| | |
|----------------------------|--------------------|
| Flow Rate Range: | 0.02 to 70.4 m3/hr |
| Max Differential pressure: | upto 34 Bar |
| Temperature range | -40°C to 150°C |
| Viscosity Range: | <1 to 200,000 cSt |

ALL ZP PUMPS INCLUDE A 304 STAINLESS STEEL GEAR CASE, PROVIDING HIGH RESISTANCE TO CORROSION AND COMPATIBILITY WITH CAUSTIC AGENTS.





CRAFT BREWERY SOLUTIONS

ROLEC DH - DRY HOPS ADDITION SYSTEM

The ROLEC DH units utilize the Ampco SBI pump to recirculate a fermenter and simultaneously induce dry hop pellets into the stream of beer. The pellets are held in a pressurised chamber, which is purged of air using carbon dioxide (CO2). Pellets can be induced into fermenting, finished, or crashed beer. The shear pump creates a differential pressure for induction of the pellets from the hop vessel. The pellets are chopped to just the right size so they can settle during the dry hop holding period.

| MODEL | PELLET CAPACITY | PUMP | RECIRCULATION /MIN | PORT SIZE | MOTOR |
|-------|-----------------|---------|--------------------|-----------|-------|
| DH45 | 20kg | SBI-R10 | 2.9 bbls / 3.4hl | 2" x 1.5" | 4.0kW |
| DH90 | 40kg | SBI-R10 | 2.9 bbls / 3.4hl | 1.5" | 4.0kW |
| DH250 | 120kg | SBI-R20 | 3.7 bbls / 4.3hl | 2" | 7.5kW |

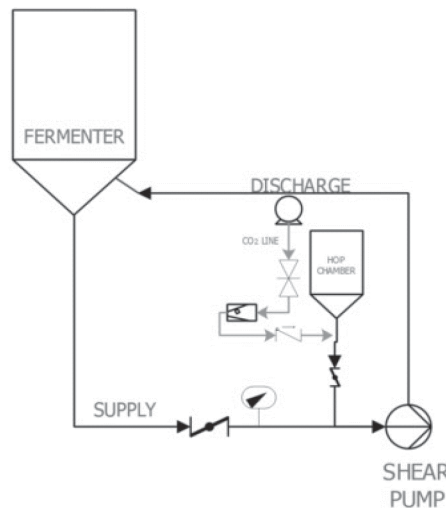


DH90

- ⌚ A glass top manway allows the user to ensure the pellets are moving
- ⌚ Guages and sightglasses aid the user in monitoring induction and pressures
- ⌚ Everything needed for pellet induction is contained on the ROLEC DH.
- ⌚ All components are sanitary and CIP-able (no additional CIP pump is required.)
- ⌚ The fully portable DH can be used on many fermenters and fits well in cramped cellars.
- ⌚ Recirculation can be done as long as desired. (Ampco recomends 3-4 fermentation turnovers)
- ⌚ Improved aroma and flavour profile.



DH250



DH45



Suspended hop particles

Hops particles after settling

No Additional CIP pump is required

AIR OPERATED DOUBLE DIAPHRAGM PUMPS



PI-50 DIAPHRAGM PUMP



The Murzan PI 50 is the only diaphragm pump specifically designed to meet the special requirements of the sanitary industry. High efficiency oil free air valve, maintenance free check valve systems, and total visual inspection of all wetted parts give the user a safe and efficient transfer of foods, cosmetics and

EHEDG, USDA listed, FDA Approved, the PI 50 series is manufactured to meet general 3-A

Our unique design allows for total visual inspection of all wetted parts. There are no blind spots or hidden areas for bacteria to grow. Simply remove the manifold clamps and chamber clamps for complete disassembly and cleaning.

- Easy to sterilize and clean in place (CIP able)
- Design allows for complete visual inspection of the wetted parts
- Self Priming up to 7.3m
- Pneumatic
- No mechanical seals
- Ability to run dry without damage
- Maintains product integrity
- Can pump viscosities up to 150,000 CPS
- Solids upto 150mm
- Portable



Ball Valve



Flapper Valve



Mushroom Valve



Mobility Option

DUS-50 Drum Unloading System



The Murzan DUS (Drum Unloading System) is the ultimate drum unloading solution for emptying the most viscous materials from various types of containers. The containers can be made of metal, plastic, or fiber.

The DUS will reduce your total unloading time and labor requirements.

The DUS is made up of 100% Stainless Steel materials, including the frame and cylinders. The unit is provided with a NEMA 4X control panel that contains all the pneumatic components.

TUS Tote Unloading System



The Murzan TUS (Tote Unloading System) has been successfully used for over thirty years in unloading highly viscous products from totes and bins. These 300-gallon totes can be made of wood, plastic, or cardboard.

The TUS is operated through a PLC (programmable logic controller), with electro-pneumatic controls, contained in a NEMA 4X panel.

Empties 300 gallons of the heaviest and most viscous products, such as 33° Brix Tomato Paste in less than 12 minutes without

KUS Kettle Unloading System



The Murzan KUS (Kettle Unloading System) offers the cleanest solution for unloading contoured high shear mixing bowls, primarily in the bakery industry. The unit provides sanitary, hands on solution for transferring products such as batters, icings, and fillings that may contain delicate solids.

The Murzan KUS can be used to feed multiple depositors from one location. This unit is portable and can be cleaned-in-place. The follower plate can be custom made for different shape containers. The unit is also built in 100% Stainless steel, with all its electro-pneumatic controls contained in a NEMA 4X panel

CBTU Marinated Products Transfer Unit



The Murzan CBTU (Marinated products transfer unit) can increase yields, increase production, reduce labor costs and reduce sanitation costs. It can be accomplished without compromising the integrity of your product.

The CBTU is designed to pump directly from your vacuum tumbler discharge to your IQF, frying lines, or breading tumbler. The unit allows you to pump chicken tenders, fillets, or disjointed wings without damage. We have successfully pumped product at a rate of 10,000 pounds an hour, at a distance of up to 100 feet.

MURZAN

AIR OPERATED DOUBLE DIAPHRAGM PUMPS

ABDT Drum Unloading System



The Murzan ABDT is a high capacity drum unloading system, used for transferring heavy products such as beverage bases, juice concentrates, and tomato pastes.

The Murzan ABDT is the ultimate approach for unloading multiple containers at the same time.

The Murzan ABDT is a user-friendly system operated by means of a PLC and touch screen. A single operator can easily control the entire unloading sequence.

The system eliminates removing your containers from the pallet and drastically increases your production capabilities.

The ABDT offers rinse and metering capabilities.

Optional load cells/metering integration makes the ABDT a powerful batching system.

DUS-50 Drum Unloading System



The Murzan AB-70 series (AB72 and AB76) pneumatic suction wand eliminates the risk associated with the handling of suction wands. There is no need to remove the drums individually from the pallet, simplifying the unloading operation.

The use of a joystick in the controls allows the user to reach any of the four drums on the pallet. The suction wand is lowered into the drum via switch. This system allows us to use any size suction wand for optimal unloading.

Customizable Suction Wand options include:

- Rinsing of the container.
- Non-return suction wand.
- Mechanism for preventing suction of drum liners.
- CIP holster that enables cleaning of the wand, hose, and pump at the same time.
- Ability to unload a pallet while you stage a second one.
- Tote tiller for unloading square totes.
- Ability to use with tote containers.

CAPACITY

Capacities up to 240 chicken necks per minute in solution may be achieved depending on the concentration of solids and total dynamic head (TDH) of the system. Rates for smaller solids will be greater subject to the same conditions.

APPLICATIONS

- | | |
|----------------------------|----------------|
| Complete Feet | Intestine pack |
| Paws | Blood |
| Necks with or without skin | Gizzards |
| Chicken skin without water | Livers |
| Heads | Hearts |



PI-50 POULTRY PUMP

The Murzan PO-50 Poultry Pump is the only sanitary diaphragm pump specifically designed with the needs of the poultry industry in mind. This pump can easily handle solids up to 4" (10 cm) in diameter or 7" (17 cm) long without damaging the product.

The Murzan PO-50 Poultry Pump reduces water usage for every pound of product processed. The pump works commonly in two shifts of production and one shift of cleaning at a very low maintenance cost.



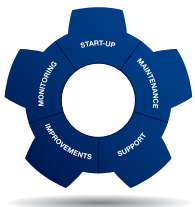
Ten top reasons

to use Alfa Laval genuine spare parts

- 1 Using Alfa Laval genuine spare parts will protect your Alfa Laval equipment because they are designed and manufactured for durability, productivity, and less environmental impact.
- 2 All Alfa Laval genuine spare parts are engineered to the highest standard and optimized to fit your product and application.
- 3 Using Alfa Laval genuine spare parts will guarantee performance, reliability and equipment life.
- 4 Alfa Laval genuine spare parts provide assurance of continuous operation.
- 5 Non-genuine parts can increase the risk of unplanned downtime.
- 6 Each service kit contains all the spare parts you need.



- 7 Using Alfa Laval genuine spare parts ensures the lowest possible total cost of ownership over the entire life cycle of your quality Alfa Laval equipment.
- 8 Alfa Laval genuine spare parts are continuously improved to meet the highest demands expressed in various legislation and industry specific standards such as, FDA, EU-regulations, 3-A, EHEDG, ASME BPE, etc.
- 9 Comprehensive documentation packages are available for Alfa Laval genuine spare parts. This ensures a smooth qualification and validation process, and provides long-term peace of mind.
- 10 Alfa Laval genuine spare parts are available around the clock – through our extensive network of channel partners and distribution centres.



Alfa Laval 360°
Service Portfolio
Extending Performance



SPARE PARTS



**AUSTRALIA'S LARGEST
HOLDING OF GENUINE
ALFA LAVAL SPARE
PARTS.**



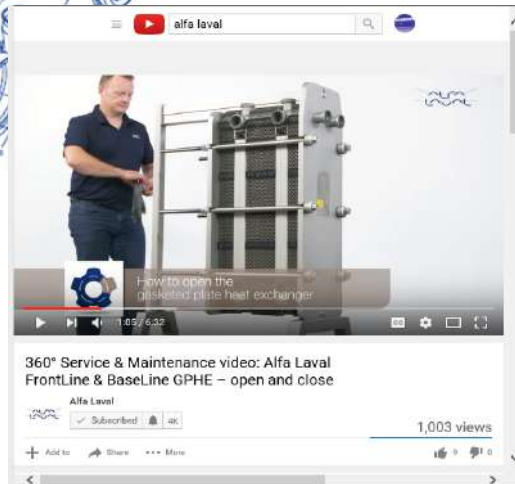
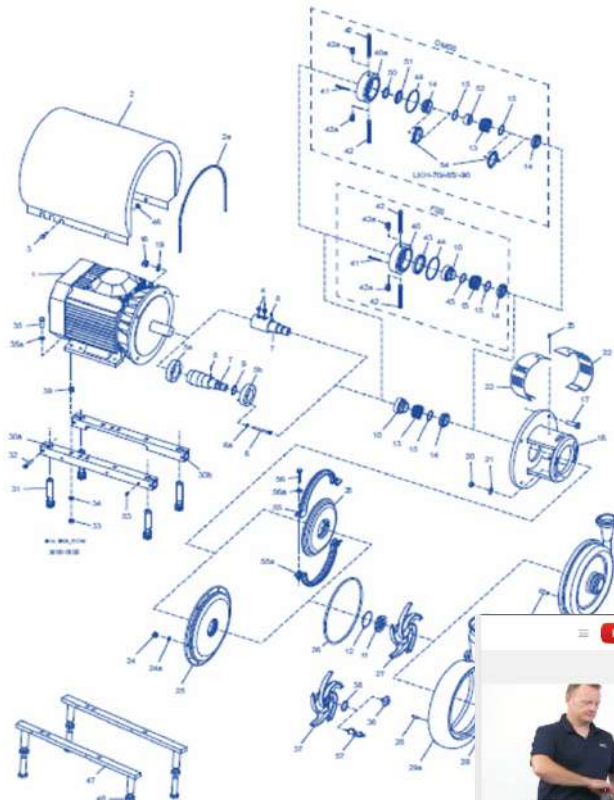
VICTORIA



SOUTH AUSTRALIA

QUEENSLAND

NEW SOUTH WALES



MATRIX PROCESS SOLUTIONS SERVICE DIVISION



FULLY TRAINED



PROFESSIONAL



COMPLIANT



CALIBRATED

QUALIFIED



CERTIFIED

FULLY EQUIPED



MATRIX PROCESS SOLUTIONS SERVICE DIVISION

Matrix Process Solutions Pty Ltd provides an array of capabilities for the preventative maintenance and repair for all its equipment and other process equipment brands.

All our service engineers are fully trained and attend regular manufacturer conducted factory training programmes programs to ensure your equipment is performing to its optimum capacity and required standards

We offer service facilities nationwide allowing us to deliver local support fast, to ensure your equipment is running at optimum performance.



Service Agreements



Training and technical support



Preventive maintenance programs



Installation



Loan Equipment



On site commissioning assistance



Breakdown service

Heat Exchanger Servicing

Heat Exchanger Testing and Certification

Process Valve Servicing

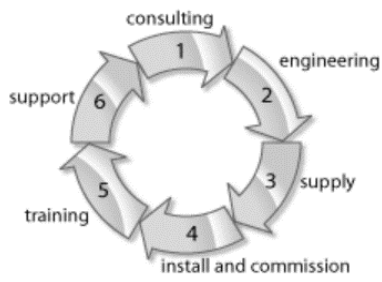
Pump Servicing



We do this for all brands.



MATRIX PROJECTS



Matrix has engineered the total service concept. Our projects division assists in the design, delivery and ongoing support of the Matrix range of products.

Consulting
Engineering
Supply
Install and commission
Training
Support

Assessing requirements and building solutions
Design and construction of the solution to specification
Product required onsite on time
Onsite work and startup
Handover and training to site personnel
After commissioning advice and onsite support



Project manage the installation of a new Alfa Vap process



Project manage the installation of a new process



System Design and installation of new product transfer and storage process.



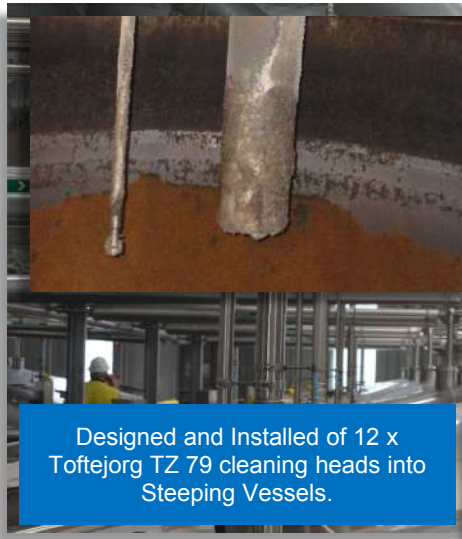
MATRIX PROJECTS



Designed and Installed new Yoghurt processing facility.



Designed and Installed new Mixproof valve manifold



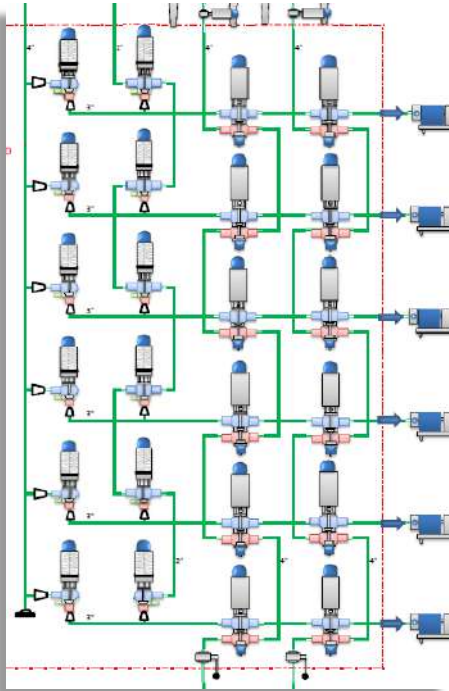
Designed and Installed of 12 x Toffejorg TZ 79 cleaning heads into Steeping Vessels.



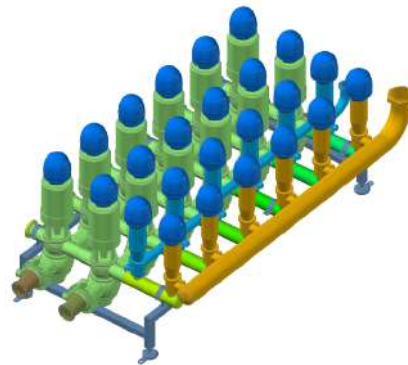
Designed and Installed complete process, incorporating a full product recovery system to maximise product yield and control effluent discharge.



MATRIX CUSTOMISED PRODUCTS



VALVE MANIFOLD DESIGN AND CONSTRUCT



Electric Actuation



Drum unloading system



Mobile Flow Meter / Trolley assembly



Custom pump builds to you needs



MATRIX CUSTOMISED PRODUCTS



Local Manufacturing allows for easy customisation

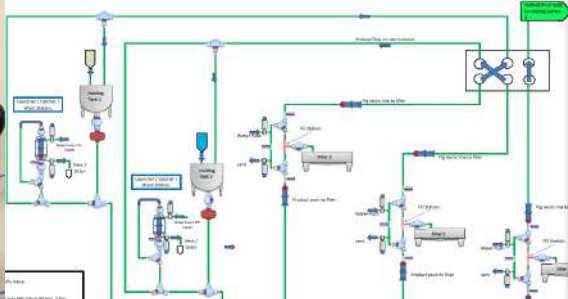


Custom Solutions using the best of the best

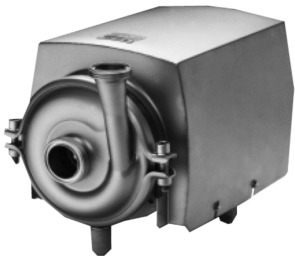
Hot Water Supply Skids



Custom Designed Product Recovery Solutions



OUTPHASED PRODUCTS - WE MIGHT BE ABLE TO ASSIST WITH SPARE PARTS



ALC SERIES PUMPS



SRC VALVES



SMP-SC VALVES



PLUG COCK VALVES



LKTN Top Unit



SMP-TO VALVES



SMP-EC VALVES



SMP-SC-SF VALVES



Tri-Clover C SERIES PUMPS



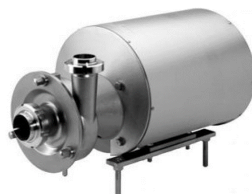
371 VALVES



761 VALVES



Mainstream filters



Fristam FPE 742



Fristam FPE 712, 722

FPE 3522
FPE 3532
FPE 3542
FPE 3552

CHEMICAL COMPATIBILITY CHART FOR ELASTOMERS

- A Stable
- B Can be used (static applications)
- C Limited stability (use not recommended)
- D Not stable

| | NBR | FPM | EPDM | Silicon | PTFE |
|-------------------------------------|-----|-----|------|---------|------|
| A Acetic acid hot | D | D | C | C | A |
| Acetone | D | D | A | D | A |
| Acetyl chloride | D | A | D | C | A |
| Acetylene, Ethylene | A | A | A | B | A |
| Acrylic acid ethyl ester | D | D | B | D | A |
| Ammonia gas, liquid | B | D | A | N/A | A |
| Ammonium carbonate | C | B | A | C | A |
| Ammonium chloride | A | A | A | C | A |
| Ammonium hydroxide 3 molar solution | A | B | A | A | A |
| Ammonium hydroxide concentrated | D | C | A | A | A |
| Animal fat | A | A | B | A | A |
| B Beer | A | A | A | A | A |
| Benzoic acid | D | A | B | B | A |
| Benzoic methyl ester | D | A | D | N/A | A |
| Bleaching lye | D | A | A | B | A |
| Butanol (butyl alcohol) | A | A | D | D | A |
| Butter | A | A | A | A | A |
| Butyl alcohol | A | A | B | D | A |
| Butyric acid | D | B | B | D | A |
| C Calcium chloride | A | A | A | A | A |
| Calcium hydroxide | A | A | A | A | A |
| Calcium nitrate (nitrate of lime) | A | A | A | B | A |
| Carbolic acid (phenol) | D | A | D | D | A |
| Carbonic acid | B | A | A | A | A |
| Castor oil | A | A | B | B | A |
| Chloracetone | D | D | A | D | A |
| Chloroaceticethylester acid | D | A | D | D | A |
| Citric acid | A | A | A | A | A |
| Coconut oil | A | A | C | A | A |
| Cod liver oil | A | A | A | A | A |
| Concentrated nitric acid | A | A | A | A | A |
| Cotton seed oil | A | A | C | A | A |
| Creosote, carbolineum | A | A | D | A | A |
| D Denatured alcohol | A | A | A | A | A |
| Diacetone alcohol | D | D | A | D | A |
| E Ethanol (ethyl alcohol) | A | C | A | A | A |
| Ethyl alcohol (ethanol) | A | C | A | A | A |
| Ethyl chloride | A | A | A | A | A |
| Ethylenechloride | D | B | D | D | A |
| F Fatty acids | B | A | C | C | A |
| Fluorocorthosilicic acid | B | A | A | N/A | B |
| Formic acid methylester | D | D | B | B | A |
| Gallic acid | B | A | B | D | A |
| Gelatines | A | A | A | A | A |
| G Glucose | A | A | A | A | A |
| Glycerine | A | A | A | A | A |
| Glycerine triacetate | B | D | A | A | A |
| Glycol (ethylene glycol) | A | A | A | A | A |
| Groundnut oil | A | A | C | N/A | A |

| | NBR | FPM | EPDM | Silicon | PTFE |
|---|-----|-----|------|---------|------|
| H Hydrobromic acid | D | A | A | D | A |
| Hydrochloric acid 3-molar | C | A | A | D | A |
| Hydrochloric acid concentrated | D | A | C | D | A |
| Hydrochlorouscarbonicethyl-ester acid | D | A | D | D | A |
| Hydrogen peroxide dilute | B | A | A | A | A |
| L Lactic acid cold | A | A | A | A | A |
| Lactic acid hot | D | A | D | D | A |
| Lavender oil | B | A | D | B | A |
| Linoleic acid | B | B | D | B | A |
| Linseed oil | A | A | C | A | A |
| M Maize oil | A | A | C | A | A |
| Malic acid | A | A | B | B | A |
| Methane | A | A | D | D | A |
| Methyl alcohol (methanol) | A | D | A | A | A |
| Milk | A | A | A | A | A |
| N Nitric acid 3% | D | A | B | B | A |
| O Olive oil | A | A | B | D | A |
| Ozone | D | A | A | A | A |
| P Paint thinners | D | D | D | D | A |
| Phenol | D | A | D | D | A |
| Potassium chloride | A | A | A | A | A |
| Potassium hydroxide caustic potash 50 % | B | D | A | A | A |
| Potassium hydroxide solutions (dilute) | B | B | A | A | A |
| R Rapeseed oil (Canola) | A | A | A | D | A |
| S Salicylic acid | B | A | A | N/A | A |
| Seawater containing chlorine and salt | D | A | A | A | A |
| Sodium bicarbonate | A | A | A | A | A |
| Sodium carbonate | A | A | A | A | A |
| Sodium chloride | A | A | A | A | A |
| Sodium hydroxide | B | B | A | A | A |
| Sodium nitrate | B | A | A | D | A |
| Sodium peroxide | B | A | A | D | A |
| Sodiumsalts | A | A | A | A | A |
| Soya oil | A | A | C | N/A | A |
| Steam above +150 °C | D | D | B | B | A |
| Steam below +150°C | D | C | A | A | A |
| Sugar cane solution | A | A | A | | A |
| Sugar solutions | A | A | A | A | A |
| Sugar-beet juice | A | A | A | A | A |
| Sulphuric acid 3-molar | D | A | B | B | A |
| Sulphuric acid concentrated | D | A | D | D | A |
| Sulphurous acid | B | A | B | D | A |
| T Tartaric acid | A | A | B | A | A |
| Trichloroacetic acid | B | C | B | D | A |
| V Vaseline | A | A | D | N/A | A |
| Vegetable oils | A | A | C | B | A |
| W Water (for industrial use) up to +100 °C | B | B | A | A | A |
| Water (for industrial use) up to +70 °C | A | B | A | A | A |
| Wine and whisky | A | A | A | A | A |

The information above is based on tests under different conditions. Many of the values have been determined at room temperature with a reaction time of 7 days (150 hours). In individual cases observations may differ between laboratory and practical tests. Because of differences in conditions of use and the composition of fluids the data given are only guidelines and should not be taken as binding.

TECHNICAL DATA

Temperature rating of Elastomers

| | NBR | FPM | EPDM | SILICON | FEP | PTFE |
|------------------------------|------------------|------------------|------------------|------------------|------------------|-------------------|
| Temperature Range | -30°C upto 100°C | -20°C upto 200°C | -40°C upto 160°C | -50°C upto 180°C | -60°C upto 200°C | -200°C upto 260°C |
| Short Period Operating Range | upto 130°C | upto 230°C | upto 180°C | upto 180°C | upto 230°C | upto 300°C |

Pressure ratings(bar) of Tri-Clamp® Connections

| Size Tube OD | Service Ratings* (bar) | | | | | | |
|---------------|---|-------------|--------|---------|--------|--------|--------|
| | ½ & ¾ inch | 1 & 1½ inch | 2 inch | 2½ inch | 3 inch | 4 inch | 6 inch |
| 13MHLA | (Screw tightened to maximum) | | | | | | |
| at 20°C | -- | 10.3 | 10.3 | 10.3 | 10.3 | 10.3 | -- |
| at 120°C | -- | 8.6 | 8.6 | 8.6 | 8.6 | 5.2 | -- |
| 13MHHM | (Wing nut tightened to 2.8 Nm of torque) | | | | | | |
| at 20°C | -- | 34.5 | 31.0 | 27.6 | 24.1 | 20.7 | 10.3 |
| at 120°C | -- | 20.7 | 20.7 | 13.8 | 13.4 | 10.3 | 5.2 |
| 13MHHS | (Wing nut tightened to 2.8 Nm of torque) | | | | | | |
| at 20°C | 151.7 | 41.4 | 37.9 | 31.0 | 24.1 | 20.7 | -- |
| at 120°C | 82.7 | 20.7 | 19.0 | 15.5 | 12.1 | 10.3 | -- |
| 13MHP | (Bolts tightened to 2.71 Nm of torque) | | | | | | |
| at 20°C | -- | 103 | 68.9 | 68.9 | 68.9 | 85.7 | 20.7 |
| at 120°C | -- | 82.7 | 55.2 | 55.2 | 85.2 | 41.4 | 13.8 |
| A13MO | (1-3" nuts tightened to 2.3 Nm., 4"-6" 3.4 Nm. of torque) | | | | | | |
| at 20°C | -- | 34.5 | 24.1 | 20.7 | 13.8 | 10.3 | 5.2 |
| at 120°C | -- | 17.2 | 13.8 | 10.3 | 10.3 | 10.3 | 3.4 |
| A13MHM | (Wing nut tightened to 2.8 Nm of torque) | | | | | | |
| at 20°C | -- | 34.5 | 31 | 27.6 | 24.1 | 20.7 | 10.3 |
| at 120°C | -- | 20.7 | 17.2 | 13.8 | 12.1 | 10.3 | 5.2 |

*Service ratings are based on hydrostatic tests using standard-molded Buna-N material gaskets, with proper installation of ferrules, assembly of joints and absence of shock pressure. Contact Matrix Process Solutions for service of other type and material gaskets, and for ratings at higher temperatures.

All ratings shown are dependent upon related components within the systems and proper installation.

For temperatures above 120°C, we recommend using only 13MHP clamps.

STAINLESS STEEL GRADES

| Material # acc. To DIN 17007 | AISI | Steel Grade code acc. To DIN 17007 | C% | Si% | Mn% | Cr% | Mo% | Ni% | Ti% |
|------------------------------|------|------------------------------------|--------|--------|--------|-------------|-----------|-------------|-----|
| 1.4301 | 304 | X 5CrNi1810 | ≤ 0.07 | ≤ 1.00 | ≤ 2.00 | 17.00-19.00 | | 8.50-10.50 | - |
| 1.4306 | 304L | X 2CrNi1911 | ≤ 0.03 | ≤ 1.00 | ≤ 2.00 | 18.00-20.00 | | 10.00-12.50 | - |
| 1.4404 | 316 | X2CrNiMo1810 | ≤ 0.03 | ≤ 1.00 | ≤ 2.00 | 16.50-18.50 | 2.00-2.50 | 11.40-14.00 | - |
| 1.4435 | 316L | X 2CrNiMo1812 | ≤ 0.03 | ≤ 1.00 | ≤ 2.00 | 17.00-18.50 | 2.50-3.00 | 12.50-15.00 | - |

CREDIT APPLICATION

Matrix Process Solutions Pty. Ltd.
ABN: 28 097 144 897
ACN: 097 144 897

Trading Name _____

ACN Number _____ ABN Number _____

PH Number _____ Fax Number: _____

Email (Invoices) _____

Email (Statements) _____

POSTAL ADDRESS _____

POST CODE: _____

DELIVERY ADDRESS _____

POST CODE: _____

Names & Details of Partners, Sole Trader or Directors

1 _____ 3 _____

2 _____ 4 _____

BANK _____ BRANCH _____

BSB # _____ ACCOUNT NUMBER: _____

TRADE REFERENCES

NAME PHONE # FAX #

1 _____

2 _____

3 _____

4 _____

- 1; I am aware that trading terms are STRICTLY NETT THIRTY (30) DAYS and will undertake to make payment within thirty (30) days from date of invoice.
2; To the best of my knowledge, all information provided is correct at the time of writing, and we will inform Matrix Process Solutions Pty. Ltd. of any changes.
3; I/we accept the conditions of trade set down by Matrix Process Solutions Pty. Ltd.
4; I/we understand that all products supplied by Matrix Process Solutions Pty. Ltd. remain the property of Matrix Process Solutions Pty. Ltd. until payment has been made in full.



Signed _____ Position _____

Print Name _____ Date: _____

TERMS OF SALE

1/ TERMS OF PAYMENT:

Terms of payment are as specified in the quotation. If terms of payment are not specifically stated to be otherwise, they are strictly net thirty (30) days following the month of invoice. Deposits may be requested/required for projects, special builds or other non-standard works, and will be otherwise detailed in the quotation, as either a percentage (%) of the total quotation price or a dollar value not more than 50% of the orders value, which is payable at the time of order placement. Projects of significant value will require not only the payment of deposits before their commencement thereof, but shall also include progress payments based on the value of work completed when requested by Matrix Process Solutions. Goods returned will be subject to a re-stocking fee. Special builds are non-returnable.

2/ PRICES:

Prices are firm for thirty (30) days unless stated otherwise. Prices do not include any Federal, State or Local Sales or GST Tax, which will apply to sales as required by law. All prices are F.O.B. your local Matrix Process Solutions Sales office, unless stated otherwise. Goods may be subject to currency fluctuations, and rights are reserved to amend quotations due to unforeseen fluctuations less than thirty (30) days from the date of the quotation. Typographical and stenographic errors are subject to correction without penalty.

3/ DELIVERY:

All shipping and delivery dates are tentative based on current equipment availability and factory loadings. Transport costs will be charged on all deliveries unless the purchaser specifies their own choice of freight forward carrier. All goods become the purchasers sole responsibility once loaded on any freight carrier ex a Matrix Process Solutions location. Matrix Process Solutions is not responsible for damages or losses due to delays of any cause.

4/ CHANGES:

Notice and changes in orders must be made and confirmed in writing. Penalties may apply for special build materials and work in progress equipment.

5/ INSPECTION OF EQUIPMENT

Upon arrival of the components and/or equipment at the purchasers facilities, or at any other place at which the purchaser has ordered the equipment delivered in accordance with the order, the purchaser shall immediately inspect the equipment and shall give written notice to Matrix Process Equipment within five days after arrival of the equipment of any claim that the equipment does not conform with the specifications or the terms of the order.

6/ RETURNS:

Orders accepted by the customer cannot be returned without prior written consent from an authorized individual of Matrix Process Solutions Pty Ltd. All returns will be subject to a minimum 25% Restocking Charge. Special builds are non-returnable and non-refundable. Shipping charges on authorised returns are to be prepaid by the Customer unless otherwise specified, otherwise freight costs will be deducted from any credit amounts issued by Matrix Process Solutions to the customer.

7/ CANCELLATIONS:

In the event this quotation results in an order which is cancelled or terminated by the customer, the customer agrees to pay to Matrix Process Solutions an amount in cash equal to 20% of the total price of the order or contract, plus the actual cost of labour, materials, overhead and related direct costs and expenses incurred by Matrix Process Solutions in connection with the order, it being impossible to ascertain or estimate the entire or exact cost, damage or injury which Matrix Process Solutions may sustain by reasons of cancellation, and such sum is agreed to as reasonable compensation and not as a penalty.

8/ LIMIT OF LIABILITY:

Matrix Process Solutions is not liable or responsible for any loss, damage, injury to person or property or any direct or consequential damage arising from sale, installation, or use of any components or equipment it supplies. Matrix Process Solutions shall not be held liable for any losses or damages to the customer resulting from the improper operation, care or cleaning of any equipment it supplies. Matrix Process Solutions is not liable for any damage to process or product due to failure of the any equipment, component or service work it supplies or conducts on behalf of the client.

9/ TITLE:

In the event the customer fails to pay as agreed in the purchase contract, Matrix Process Solutions shall have the right to immediate possession of the property and to enter upon the premises where the property may be located and remove same, while also reserving the right to deduct costs associated with recovery, manufacture and shipping to and from the client, from any deposit or monies paid by the client. Title of any and all goods supplied by Matrix Process Solutions does not pass to the customer until the agreed purchase contract price has been paid in full.

10/ WARRANTY:

Matrix Process Solutions Pty Ltd, warrants to the original purchaser that equipment of its many manufacturing principals including but not limited to Alfa Laval, ABB Motors, Keofitt, Murzan, LAUFER International (LIAG), Ampco Pumps, Pipetite, MCD, Gemu and SSP Pumps, is free from defects in material and workmanship for a period of one (1) year from date of shipment. Matrix Process Solutions guarantees to repair or replace at its choice, F.O.B. a Matrix Location, any such equipment found to be defective, provided written notice of the alleged defect is received within one year from date of shipment. Excluded from the foregoing guarantee are damages caused by ordinary wear and tear, erosion and corrosion, or by misuse, abuse or improper handling by the purchaser or any third party. Matrix Process Solutions Pty Ltd makes no additional warranties, expresses or implied, whether of merchantability, fitness for purpose, or otherwise, other than that stated above. Matrix Process Solutions Pty Ltd, shall not be responsible for any indirect special or consequential damages, nor for any other claims arising out of the sale or use of its equipment, beyond the remedy as stated above. Equipment, parts or accessories manufactured by any of Matrix Process Solutions Manufacturing Principals carry the guarantee of the manufacturer only. Any warranties or claims which differ from the foregoing are unauthorized by Matrix Process Solutions Pty Ltd and become the warranty safety of the party making them, unless specifically authorized in writing by an officer of Matrix Process Solutions Pty Ltd. Should any provision of the foregoing be held ineffective, the remaining provisions shall continue in full force and effect.

11/ EXCLUSIONS, EXTRAS AND OPTIONS:

Installation, rigging, mounting, erection, electrical and pneumatic installation, and start up commissioning are not included unless specifically stated otherwise in the quotation.

Site restrictions which contribute toward additional service hours, requirements for site inductions, crainage and additional cartage on site, spare parts not specified in the quotation but required to return units to operational duty during serving, along with any other unspecified parts, delay, components or services requested by the client on site, will be charged as extras to the clients account, and commencement of any site work by Matrix Process Solutions Pty Ltd will constitute acceptance by the client of the terms as specified above. Supervisory assistance is available at extra cost for installation, erection, or start up commissioning at current Matrix Process Solution rates, plus all travel and living expenses, unless stated otherwise in the quotation.

12/ RISK OF LOSS

Matrix Process Solutions Pty Ltd shall not be liable for damages arising from its failure to make or delay in making delivery because of fire, flood, strikes, riots, embargoes on freight of any government, accidents, insurrections, lockouts, breakdown of machinery, loss or damage of goods in transit, Acts of God, or any other circumstances or unavoidable cause beyond the control of Matrix Process Solutions Pty Ltd.

In no case shall Matrix Process Solutions be responsible for any liability, loss or damage after delivery of the equipment in good order and condition to the carrier or carriers at any point of shipment.

In no case shall Matrix Process Solutions be responsible for any loss of production, loss of profits or loss of product arising from any process design or installation it undertakes, unless specifically agreed to in a process, construction and contract brief signed by all parties prior to such work being undertaken.

13/ GENERAL

These terms and conditions of sale cannot be supplemented or altered by any language contained in any purchase order or other customer's document unless accepted in writing by Matrix Process Solutions Pty Ltd.

The sale shall be governed by, constructed and interpreted in accordance with, the laws of the State of Queensland, Australia, and the buyer hereby submits to the non-exclusive jurisdiction of the courts of Queensland, and waives any objection due to the lack of jurisdiction thereof.

14/ INTELLECTUAL PROPERTY

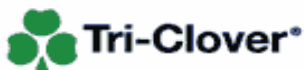
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MATRIX

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PRODUCT CATALOGUE



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