



PT. INKO METALINDO

Industrial Supply Company

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AZ Armaturen



Two way plug valve
for all common
applications

TYPE F-2-ISO-
STANDARD



Two way plug valve
Firesafe-Seal (API 607)

TYPE F-2-ISO-
STANDARD-FS



Two way plug valve
Chemistry-Seal

TYPE F-2-ISO-
STANDARD-CA



Three way plug valve
vertical or horizontal

TYPE F-3-ISO-
STANDARD



Multway plug valve
four or five way

TYPE F-4/F5 ISO-
STANDARD



Full bore design

TYPE EXTRA



Heating jacket

TYPE TM / HM



Flushing device

TYPE SP



Weld ends
Buttweld, Socketweld

TYPE SW / BW



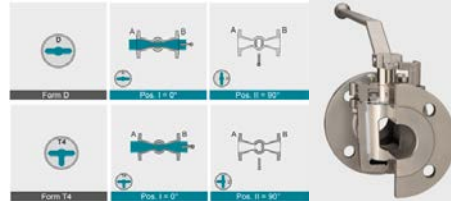
Plug valve
screwed

TYPE MG

AZ Armaturen



Two way plug valve with ISO top flange with sealing system STD



Design Characteristics

- free of cavities
- maintenance free – self lubricating
- mounting-flange for actuators acc. to DIN ISO 5211
- easy accessible adjustment of the plug, even with mounted actuator
- vacuum tight
- fugitive emission resp. clean air act certified (TA-Luft 2002 approval)
- PED 97/23/EG
- Firesafe design API 607 ISO 10497
- FDA conformity

Standard body materials

- Carbon Steel 1.0619, ASTM A216 WCB
- Stainless Steel 1.4408, ASTM A351 CF8M
- Stainless Steel 1.4308, ASTM A351 CF8
- Unalloyed stainless steel casting (low Temp.) 1.1138, LCC/LCB/A352

Standard plug materials

- Stainless Steel 1.4408, ASTM A351 CF8M
- Stainless Steel 1.4308, ASTM A351 CF8

Special materials

- Ductile cast iron ENJS 1049, ASTM Gr 60-40-18 / A395
- Alloy
- Monel
- Nickel
- Zirconium
- Titan
- Tantal
- other materials on request

AZ Armaturen



AZ Armaturen



lined plug valve
with chemical seal

TYPE ISO-STD-A-CA



lined plug valve
fluctuation temperatures
chemical safety seal

TYPE ISO-STD-A-
CASN-A



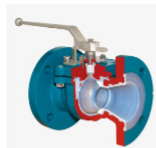
lined plug valve
with replaceable PTFE
sleeve

TYPE AB 2000



ball valve full bore
with one piece body

TYPE MONOBLOC
EXTRA



ball valve
one piece body

TYPE MONOBLOC



ball valve
two piece body

TYPE NVN



ball valve
bottom outlet

TYPE NEOVAL

AZ Armaturen



SAMPLING SYSTEM

Design Characteristics

- free of cavity
- closed system
- maintenance free – self lubricating
- pressureless sampling
- defined representative sample quantity (25ml)
- piggyback
- no flow interruption
- simple and foolsafe handling
- sampling in vacuum possible
- fugitive emission resp. clean air act certified (TA – Luft 2002 approval)
- DGRL 97/23/EG



liquid or solid sampling

TYPE CONTIFLOW



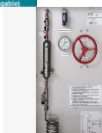
liquid sampling
variable volume

TYPE VARIO



liquid sampling
spillage and
contamination free

TYPE SAMPLING



gas sampling
with integrated system
flushing

TYPE GSP



liquefied gas sampling
with integrated system
flushing

TYPE LG-SP



two phase liquid sampling
representative long-term
sampling

TYPE SAMPLING-SIC



drinking water sampling

TYPE AQUA-P

B3 VALVE

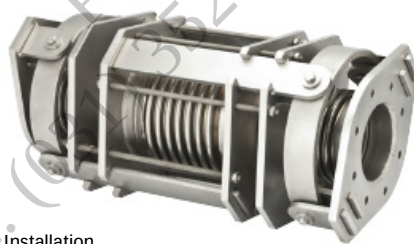
B3[®] VALVE



- Gate, globe and check valve: pressure seal, through conduit, bellow seal, forged steel.
- Butterfly valve: resilient and metal seated. Size range: 2" to 60".
- Ball valve: floating, trunnion, metal seated, segmented and fully welded.
- Plug valve: sleeved and lubricated type.



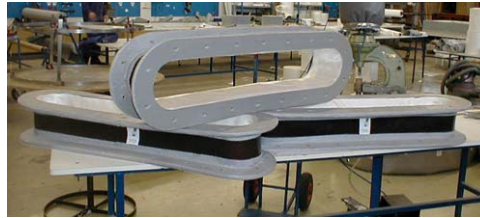
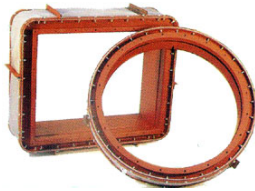
Belman Metallic Expansion Joints



- Installation
- Repair / refurbishment
- Clamshell bellow
- Inspection
- Engineering service



Bording Bellows



Fabric Expansion Joints

CONFIGURATION OF TYPE B700-IV

Wire mesh AISI 316
High Temperature Glass Weave
Superseal
Glass felt
PTFE felt
Silicone coated glass weave
Flange reinforcement
PT coated glass weave



ND Dampers



Bording Bellows



Fabricated Products



Filter 1Pass

- Removes air, microbubbles and all types of dirt including magnetite down to 5 micron and less.
- Greatly reduced commissioning times after initial fill
- Removes 99% of all types of dirt including magnetite on the first pass through the unit
- Longer system life
- Cleans and de-aerates the system quicker
- Low-pressure drop
- One directional flow.
- Water flows in one side and comes out clean and de-aerated the other
- Removes microbubbles at 6 bar in heating systems and 4 bar in chilled water for Microbubble removal
- Tested to 21 bar
- All stainless steel vessel. Lifetime guarantee
- Cartridge: 2 years guarantee and replaceable.

“ REMOVE 99 % OF AIR & DIRT IN JUST 1 PASS OF THE UNIT! “

Fabricated Products



Data Sheet 10- 1Pass Microbubble air & dirt separator



The Combined Air/C Descender 1/2, Dirt Separator

- 1 High capacity extra air vent
- 2 Fast bleed Valve
- 3 Drain Valve



		Dimension (mm)							Tested to
Model No.	Capacity	A	B	C	D	E	F	G	
1 Pass - 50	10 m ³ /h	50	430	338	170	25	380	718	21 bar
1 Pass - 60	15 m ³ /h	60	430	338	170	25	380	718	21 bar
1 Pass - 80	25 m ³ /h	80	490	408	200	25	440	848	21 bar
1 Pass - 100	40 m ³ /h	100	490	408	200	25	440	848	21 bar
1 Pass - 125	60 m ³ /h	125	630	518	250	25	580	1098	21 bar
1 Pass - 150	90 m ³ /h	150	820	718	325	25	760	1408	21 bar
1 Pass - 200	160 m ³ /h	200	810	695	410	30	825	1500	21 bar
1 Pass - 250	260 m ³ /h	250	890	845	500	30	775	1600	21 bar
1 Pass - 300	380 m ³ /h	300	1100	945	600	30	875	1800	21 bar
1 Pass - 350	510 m ³ /h	350	1300	1050	700	30	950	1970	21 bar
1 Pass - 400	660 m ³ /h	400	1500	1195	770	30	1125	2300	21 bar
1 Pass - 450	880 m ³ /h	450	1750	1195	900	30	1125	2500	21 bar

• Maximum flow rate up to 3m³/sec

Fabricated Products



Precipitator™

- No. 1 for ion release
- In-line device
- 1/2" – 8" sizes
- Inhibits limescale
- Improves heat transfer
- Reduces corrosion
- Proven method improved
- Save energy
- Non chemical
- Non electrical
- No magnets
- Long life
- No operating cost

Size	Model	A (mm)	B (mm)	Weight	Application	Flow Rate (m³ / Hour)	Pressure Loss (Bar)
1/2"	10W R 25	300	Ø 37	3.4 kg	Commercial	Max. 9	0.01 - 1.2
1/2"	10W R 32	330	Ø 63	4.4 kg	Commercial	Max. 9	0.01 - 1.8
1/2"	10W R 40	360	Ø 69	5.3 kg	Commercial	Max. 11	0.01 - 2.2
2"	10W R 50	400	Ø 90	9.2 kg	Commercial	Max. 20	0.01 - 1.8
2"	10W R 50	445	Ø 100	15 kg	Industrial	Max. 20	0.01 - 0.4
2 1/2"	10W R 65	445	Ø 112	16 kg	Industrial	Max. 30	0.01 - 1.5
3"	10W R 80	445	Ø 138	28 kg	Industrial	Max. 40	0.01 - 0.4
4"	10W R 100	445	Ø 175	32 kg	Industrial	Max. 60	0.01 - 0.4
5"	10W R 125	500	Ø 200	50 kg	Industrial	Max. 80	0.01 - 1.1
6"	10W R 150	520	Ø 250	80 kg	Industrial	Max. 140	0.02 - 0.4
8"	10W R 200	520	Ø 300	120 kg	Industrial	Max. 250	0.01 - 0.2
10"	10W R 250	940	Ø 351	160 kg	Industrial	Max. 353	0.01 - 0.2

A SUSTAINABLE TECHNOLOGY

Precipitator water conditioners inhibit lime-scale deposits & control corrosion within hot & cold distribution pipework, heating system, water processes and other plumbed in appliances.

COST TO INDUSTRY

Studies reveal that 22 mm thick layer of limescale on a heat exchanger surface reduces heat transfer by 90% :

- 1 mm layer 7.5 %
- 12 mm layer 65%

Fabricated Products



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IMPROVE PERFORMANCE

Technology of the device is highly resistant to internal lime-scale build up and passivation which is often a case why other conditioners fail to function after only a short period of operation.

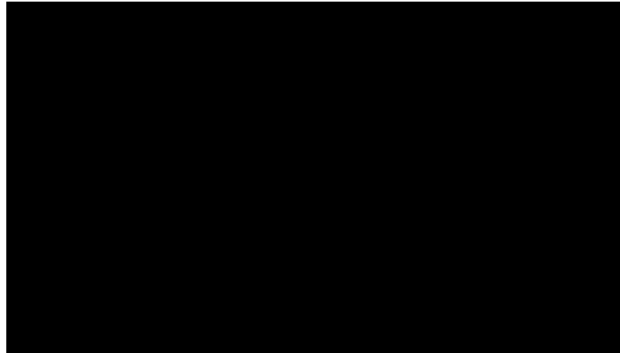
ENERGY EFFICIENCY

Water conditioning is one of the most sustainable methods of inhibiting limescale & corrosion in appliance, processes and systems.

BUILDING REGULATIONS WATER TREATMENT

To comply with Part L of the Building Regulations, the feed water to water heaters and boilers needs to be treated to prevent limescale formation when the primary space heating or hot water appliance is next replaced.

Forbes Marshall



Forbes Marshall
Trusted Partners. Innovative Solutions.

Forbes Marshall is a leader in process efficiency and energy conservation for Process Industry, with over seven decades of experience building steam engineering and control instrumentation solutions. Our unique complementary expertise enables us to engineer customised systems that improve manufacturing processes, conserve energy and are environmentally sustainable. We offer our customers a comprehensive range of services, products and solutions for utilities and process control. We are present in over 50 locations globally, with 5 manufacturing facilities. Our knowledge, innovative solutions, reliable products and global presence make us a trusted partner.

FORBES MARSHALL FORBES SOLAR	FORBES VYNCKE KROHNE MARSHALL	FORBES MARSHALL ARCA CODEL INTERNATIONAL
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FORBES MARSHALL STEAM SYSTEMS Pvt Ltd (Formerly Spirax Marshall Pvt Ltd) CN No. 127209/189PTC011334

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Email: seg@forbesmarshall.com www.forbesmarshall.com

Forbes Marshall



Sempell High Pressure Globe Valve Safety Relief Valve Single / Multi Stage Blowdown Valve Piston Valve	KROHNE Vortex Flowmeter	polymetron Steam & Water Analysis System	ARCA REGLER Control valves Desuperheater Combined Pressure Reducing & Desuperheating valve
EFFIMAX BOILER EFFICIENCY MONITORING SYSTEM	COMPACT MODULE TWO ORIFICE FLOAT STEAM TRAP	COMPACT MODULE THERMODYNAMIC STEAM TRAP	CONDENSATE PUMP
OIL & GAS FIRED BOILER	PRESSURE REDUCING VALVE	SAFETY RELIEF VALVE	MOISTURE SEPARATOR
INSITU MULTI GAS ANALYZER	MASTER AIR CONTROL	Silica Analyzer	Level Gauge & Switch
Thermocompressor	CodeL SO₂, CO₂ & NO_x	CodeL Dust / Opacity Monitor	

Specialists in Process Efficiency and Energy Conservation

Forbes Marshall



Leakage is out, the Piston Valve is in

What is a Piston Valve?

The Piston Valve is a seatless and glandless valve. At the heart of the Piston Valve are the Piston and Sealing Rings. A burnished piston seals against metal reinforced graphite rings to achieve bubble tight shutoff. This unique design ensures, long life even at high temperatures - upto 425°C (797°F).

Features:

- Burnished Piston and metal reinforced graphite sealing rings
- Bubble-tight shut-off
- Minimum inventory of spares
- Low co-efficient of friction and low operating torque
- Inline serviceable for long life
- Larger effective sealing area - 600% more than Globe Valve
- Zero leakage assured across the gland and the seat
- Durability - piston unexposed to media
- Absence of gland and valve key
- Fire proof
- Maintenance friendly
- Self cleaning
- Self lubricating
- Applications - Steam, Superheated Steam and condensate, Heat Transfer Fluid, Compressed Air
- TUV certified ISO 9001 company
- CRN Approved
- PED Approved



Operating Conditions	PMO - Max. Operating Pressure	TMO - Max. Operating Temperature	Cold hydraulic test pressure
For socket weld ends with ANSI 800 rating	78 bar g (1131 psig)	425°C (797°F)	156 bar g (2262 psig)
For screwed ends	31.64 bar g (456 psig)	425°C (797°F)	63.0 bar g (913 psig)
For ANSI 150	19.6 bar g (284 psig)	425°C (797°F)	39.2 bar g (568 psig)
For ANSI 300	51 bar g (739 psig)	425°C (797°F)	102 bar g (1479 psig)

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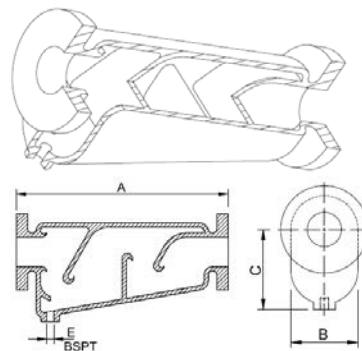


MOISTURE SEPARATOR

Limiting Conditions

Body design condition	32 bar g at 425 °C
Cold hydraulic test pressure	64 bar g

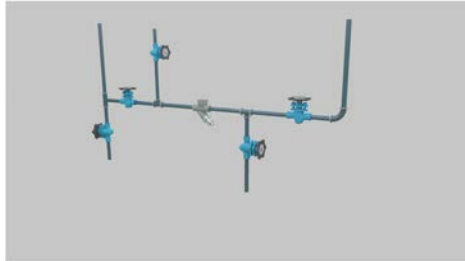
Flange Types	Max. Working Pressure	Max. Working Temp.
TAB 'F'	21 bar g at 232 °C	425 °C at 10.5 bar g
TAB 'H'	32 bar g at 232 °C	425 °C at 17 bar g
TAB 'J'	32 bar g at 232 °C	425 °C at 24 bar g
TAB 'K'	32 bar g at 232 °C	425 °C at 31 bar g
ASA 150	19.6 bar g at 38 °C	425 °C at 5.5 bar g
ASA 300	51.1 bar g at 38 °C	425 °C at 28.8 bar g
PN 10	10 bar g at 200 °C	425 °C at 5.65 bar g
PN 16	16 bar g at 200 °C	425 °C at 9.1 bar g
PN 25	25 bar g at 200 °C	425 °C at 14.25 bar g
PN 40	40 bar g at 200 °C	425 °C at 22.8 bar g



Dimensions: (approx.) in mm

Sizes DN	Dimensions				Weight Kg
	A	B	C	E	
25	280	70	100	20 DN	14
40	390	89	111	20 DN	22
50	472	120.5	146	25 DN	32
65	405	146	171	20 DN	40
80	510	152.4	174	25 DN	69
100	720	200	238	25 DN	114
125	705	354	233	25 DN	184
150	720	375	232	25 DN	200
200	762	416	308	40 DN	300

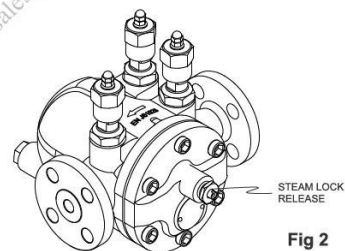
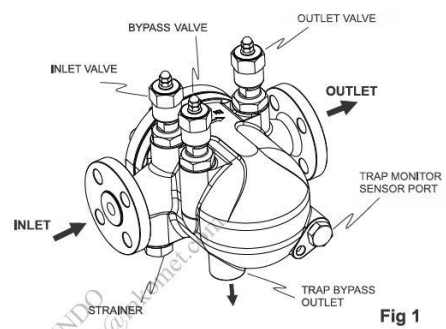
Forbes Marshall Compact Module Thermodynamic Steam Trap

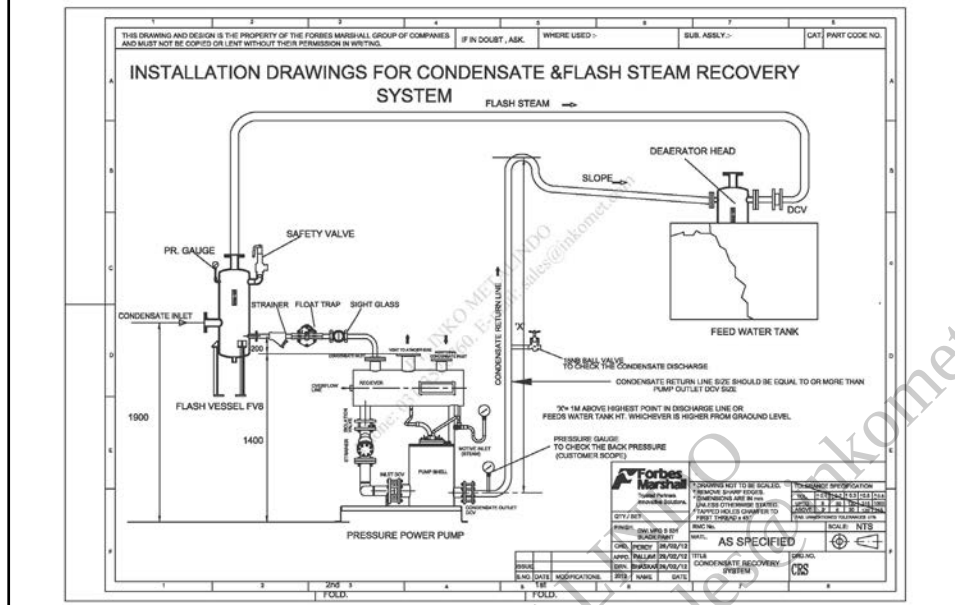


Forbes Marshall Compact Module Steam Trap



Double Orifice Float Trap





Forbes Marshall Code

CODEL Monitoring Solutions

VCDEM 5100

Instant non-Contact Gas Flow Monitor

Provides non-contact measurement of flue gas velocity using a laser Doppler velocimetry (LDV) principle. The laser beam is directed at the gas flow and the reflected light is captured by a detector. The detector measures the frequency shift of the reflected light, which is proportional to the gas velocity. The system is suitable for gas temperatures up to 1100°C and can measure gas flow in m/s or m³/s.

- IR Detectors, no transmitter
- Non-Contact Measurement
- Suitable for above dew point to 1100°C gas temperature
- No Moving Parts: High Reliability, Low Maintenance
- Continuous Real Time Measurement
- Measures Gas Velocity in m/sec
- Measures Gas Flow in m³/sec
- Integral Auto Low and High Span Value Check



DCDEM 2100

Dual Beam Optical / Dust Density Monitor

Provides dual beam optical measurement of dust density. The system is suitable for gas temperatures up to 850°C and can measure dust density in mg/m³. The system is suitable for use in a wide range of industrial applications, including power generation, cement, and steel.

- Unsuppressed Flame Out/Flame On
- Automatic Line Contamination Correction
- Automatic Span and Span Check
- Dynamic Misalignment Check
- Safety of Fail Safe Shutter
- Suitable for above dew point to 850°C gas temperature
- Local / Remote Control Unit
- Data in % Opacity, mg/m³ and mg/Nm³
- Online Keypad Correction for Temperature, Pressure, H₂O and CO₂
- Low Maintenance, High Availability
- High Intensity RED LED (837 nm)
- Green LED (585 nm) for US EPA Compliance*
- * US EPA Compliance requires light at < 400 nm, dust measurement in mg/Nm³ requires light > 400 nm.



COMBUSTION EMISSION MONITORING SYSTEM (CEMS)



AIRPORTER

Online Ambient Air Monitoring Station

World's first out-of-the-box "Plug and Play" station. The system is suitable for use in a wide range of industrial applications, including power generation, cement, and steel. The system is suitable for use in a wide range of industrial applications, including power generation, cement, and steel.

- World's first out-of-the-box "Plug and Play"
- Wall or mast mounted
- Compact design, built in AC
- No separate AC shelter/room required
- Measures O₂, CO, SO₂, H₂S, NH₃, VOC(BTEX), PM10/2.5, NO, NO₂, NO_x, Meteorological data, indoor air quality
- Built in computer, 5 year data logging
- Remote diagnostics, intrusion alert SMS
- Email message
- Internet connectivity
- Integral zero air supply for calibration

FLAME SCAN

Advanced Flame Detector for coal firing boilers using twin detector correlation technology

Provides advanced flame detection technology. The system is suitable for use in a wide range of industrial applications, including power generation, cement, and steel. The system is suitable for use in a wide range of industrial applications, including power generation, cement, and steel.

- Dual detector flame detection technology
- Unsuppressed flame out/off discrimination between adjacent and opposing burners
- No moving parts - no shutters or motors to reduce reliability
- On board diagnostics - fails to safe in fault condition
- Two relays - flame off and maintenance relays
- Two analogue outputs - for flame intensity
- Local display - 0-99% display of flame intensity
- Fast response time - below 3 seconds



GCDEM 40XX Series

In-situ Multi Gas Analyser

World Class, Rugged, Reliable, Accurate, In-situ Gas Analyser which work 365 days a year. The system is suitable for use in a wide range of industrial applications, including power generation, cement, and steel. The system is suitable for use in a wide range of industrial applications, including power generation, cement, and steel.

- World Class, Rugged, Reliable, Accurate, In-situ Gas Analyser which work 365 days a year.
- IR Based
- Fast Response
- No Sampling / Conditioning of Gases
- Works on Gas Diffusion Technique
- No Filter Choking
- Multi Gas Analyser: CO, SO₂, NO_x, HCL, CH₄ Gases
- Built in Measurement of CO₂, H₂O, Temperature and Pressure for Online Normalization
- CO Measurement at APM inlet for boiler combustion efficiency monitoring
- Suitable for above dew point to 500°C gas temperature
- On Line Calibration using Audit Gases
- Negligible Maintenance



COAL MILL ANALYSER - CO

Field mounted - No AC room / shelter required. The system is suitable for use in a wide range of industrial applications, including power generation, cement, and steel. The system is suitable for use in a wide range of industrial applications, including power generation, cement, and steel.

- Field mounted - No AC room / shelter required
- Infrared gas analyser with stainless steel measurement chamber
- Low maintenance operation
- High dust loading operation
- Automatic zero calibration
- Remote data display unit, data in ppm
- Closed coupled Ex-Situ analyser



Garlock Sealing Technologies

Garlock
SEALING TECHNOLOGIES



KLOZURE Oil Seals

Compression Packings

Gasketing



Garlock Sealing Technologies

Garlock
SEALING TECHNOLOGIES

NON ASBESTOS GASKET					
Style	9900	IFG-5500	2500	700L	2940
MATERIAL PROPERTIES					
Color:	Mahogany	Gray	Green	Green	Grey Black
Composition:	Graphite fibers with a nitrile binder	Inorganic fibers with a nitrile binder	Aramid fibers with a nitrile binder.	Aramid and inorganic fibers with	Aramid fibers with a nitrile binder
Fluid Services ¹ :					
Water:	X	X	X	X	X
Aliphatic hydrocarbons:	X	X	X	X	
Oil:	X	X	X	X	
Gasoline:	X	X	X	X	
Saturated steam:	X	X	X		X
Most refrigerants:	X	X			
Inert gas:	X				X
Temperature ² , °F (°C)					
Minimum:	-100 (-73)	-100 (-73)	-100 (-73)	-100 (-73)	-40 (-40)
Continuous Max:	+650 (+343)	+550 (+288)		+400 (+205)	+400 (+205)
Maximum:	+1000 (+537)	+800 (+427)	+400 (+205)	+700 (+370)	+700 (+371)
Pressure ² , Maximum, psig (bar):	2000 (138)	1200 (83)	1000 (70)	1000 (70)	1000 (70)
P x T (max.) ² , psig x °F (bar x °C)					
1/32 and 1/16":	700,000 (25,000)	400,000 (14,000)	250,000 (8,600)	350,000 (12,000)	350,000 (12,000)
1/8":	350,000 (12,000)	275,000 (9,600)	150,000 (5,100)	250,000 (8,600)	250,000 (8,600)

Garlock Sealing Technologies



THERMa-PUR™ Style 4122



TYPICAL PHYSICAL PROPERTIES

Temperature	Continuous max.	+1832°F (1000°C)	
Pressure¹	psig (bar)	4122-FC	500 (34.5)
		4122-CMG	1000 (68.9)
		4122-KAMM	Equal to flange rating
P x T, max.²	psig x °F (bar x °F)	4122-FC	150,000 (5,100)
		4122-CMG	600,000 (21,500)
		4122-KAMM	Equal to flange rating

Typical Physical Properties for 4122-FC³:			
ASTM Test Method F36			
Compressibility, range, %		35-45	
Recovery %		18	
ASTM F38			
Creep Relaxation, %		25	
ASTM F152			
Tensile, w/insert, psi (N/mm ²)		1,200 (8.3)	
ASTM F1315			
Density, lbs./ft. ³ (grams/cm ³)		85 (1.36)	
ASTM D149			
Dielectric Properties, volts/mil.		100	

Typical Physical Properties for 4122-FC³:

ASTM Test Method F36	
Compressibility, range, %	35-45
Recovery %	18
ASTM F38	
Creep Relaxation, %	25
ASTM F152	
Tensile, w/inset, psi (N/mm ²)	1,200 (8.3)
ASTM F1315	
Density, lbs./ft ³ (grams/cm ³)	65 (1.36)
ASTM D149	
Dielectric Properties, volts/mil	100



Cut Gaskets (4122-FC)

Value & Benefits

- » Extreme Temperature Able to withstand high temperature, whether continuous or in thermal cycling conditions
- » Oxidation Resistance Contains proprietary materials that provide improved weight loss characteristics over other high temperature solutions. (see graph)
- » Hydrophobic & Electrically Insulating Resists water and provides electrical isolation thus reducing the possibility of corrosion between flanges made of dissimilar metals
- » Easy Release from Flanges Does not stick to flanges making removal of gaskets easy and fast
- » Safer Handling Patent-pending fiber core makes gaskets safer to handle when compared to traditional high temperature gaskets with steel cores

Garlock Sealing Technologies



GYLON BIO-ASEPT® FDA DIN 11850 and ISO 1127 PTFE Gasket



GYLON BIO-ECO® - M1 / M2 collar DIN 11851 PTFE Gasket



GYLON BIO-PRO® Highly resistant hygienic gasket for TRI-CLAMP couplings



GYLON® BIO-PRO PLUS™

KEY ATTRIBUTES

- » Sealing Integrity - proprietary GYLON® resists creep and cold flow
- » Eliminates gasket recession or intrusion into the process flow
- » Complies with ASME-BPE for dimensional stability and initial fit up
- » Ease of removal with zero gasket residue
- » Exceptional chemical and thermal cycling capabilities
- » Non-additive and non-absorptive
- » Universal with unlimited shelf life - simplifies inventory and gasket selection process
- » Ideal for SIP (steam in place) & CIP (clean in place) processes

STANDARDS AND CERTIFICATIONS

- » 3A compliant
- » Meets FDA 21CFR177.1550
- » NSF 61 standard
- » EN 1935/2004
- » EC 10/2011
- » USP Class VI chapter 87 & 88
- » USP part 31, 281 & 661
- » TSE free
- » Phthalate free

SPECIFICATIONS

Process Temperatures	-450°F (-268°C) to +500°F (260°C)
Pressure, max.*	800 psig (55 bar)

* The GYLON® modified PTFE material's flange gasket maximum pressure rating exceeds the typical pressures used in hygienic clamp fittings.



Garlock Sealing Technologies



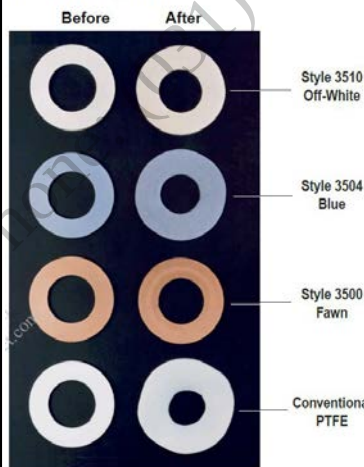
NON ASBESTOS COMPRESSION / GLAND PACKING							
Style	98	8921-K	1333-G	G-200	1925	127-AFP	1303-FEP
Material Classification	Carbon filament	Spun synthetic-aramid filament	Graphite filament-reinforced flexible graphite	Graphite filament	Fiber-infused PTFE	INCONEL wire-reinforced spun carbon over homogeneous core	INCONEL filament-reinforced flexible graphite
Lubrication	Graphite dispersion	PTFE suspensoid & snow-white	Graphite	Graphite dispersion	PTFE suspensoid & snow-white	Graphite	Graphite dispersion
Construction	LATTICE BRAID®	LATTICE BRAID®	Square braid	LATTICE BRAID®	LATTICE BRAID®	Braid over core	Square braid
Service							
Rotary	X	X	X	X	X		
Reciprocating	X	X					
Valve	X	X	X			X	X
Temperature (deg. C)							
Atmosphere	-200 to +455	-110 to +288	+455	+455	-270 to +260	+455	+455
Steam	+1200		+650	+650		+650	+650
Pressure (bar)							
Rotary	35	35	35	35	20		
Valve	173	173	275			82	310
Shaft speed							
Feet / minute (FPM)	1200	2250	4800	4000	2500		
Meter / second (MPS)	6	11	23	20	12		
pH	5-9	0-12	0-14	0-14	1-13	1-12	0-14
Performance	- High thermal conductivity means process runs cooler, and packing lasts longer - Withstands wide variety of chemicals - Low coefficient of friction for longer	- Excellent for pumps, valves, rods, plungers, rams, expansion joints - Reduction in shaft and sleeve wear lowers operational costs	- Graphite filament reinforcement resists extrusion in high pressure applications	- Low coefficient of friction reduces shaft wear - Ideal end ring (with GRAPH-LOCK® center rings) in valve service	- Withstands elevated temperatures and aggressive chemicals - Low coefficient of friction reduces shaft wear	- Certifiable to less than 200 ppm Leachable Chlorides® - Trademark - Inco Alloys International, Inc.	- Non-scoring, self-lubricating, non-hardening - Compliance VOC & VMAP emissions regulations

Garlock Sealing Technologies



Test Data

Compression at 2000 psi (14 N/mm²) for 1 hour at 500°F (260°C)



GYLON® Styles	3500, 3504, 3510, 3530, 3535, 3540, 3545, 3565	HP 3560 HP 3561
Temperature ¹ Cont. max.	+500°F (+260°C)	+500°F (+260°C)
Minimum	-450°F (-268°C)	—
Pressure, Cont. max. ¹	1200 ² (83)	2500 (172)
P x T, max. ¹	1/32", 1/16" (0.8 mm, 1.6 mm)	350,000 ³ (12,000)
psig x °F (bar x °C)	1/8" (3.2 mm)	250,000 (8,600)
		700,000 ³ (25,000)
		450,000 (15,000)

GYLON® Gasketing

3500 (Fawn) Silica filled PTFE – Excellent for **strong acids**, solvents, hydrocarbons, water, steam

3504 (Blue) Glass Microsphere filled PTFE – **moderate acids and caustics**, hydrocarbons, solvents and refrigerants

3510 (O/W) Barium Sulfate filled PTFE – Excellent for **strong caustics**, moderate acids, chlorine and hydrocarbons

3545 - Microcellular PTFE & Rigid PTFE core – Excellent for **strong acids & caustics**, hydrocarbons, solvents

Garlock Sealing Technologies



BEARING ISOLATORS



LARGE BORE SEALS



SMALL BORE SEALS



Garlock Sealing Technologies



PS-SEAL®

GYLON® Powered High Performance Seal



SEAL CASE

The standard material for the PS-SEAL seal case is stainless steel 1.4571 (316Ti). Other materials can be supplied on request.

OPERATING PRESSURE

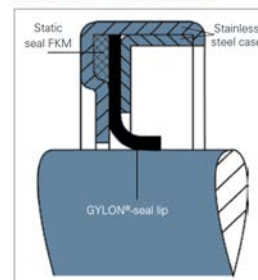
- » PS-SEAL Standard max. 145 psi
- » PS-SEAL Non-Standard max. 362.5 psi (depending on version)
- » PS-SEAL Special max. 362.5 psi (depending on version)
- » PS-SEAL Lip max. 362.5 psi (depending on version)

TEMPERATURE RANGE

The PS-SEAL lip material can handle temperatures between -130°F (-90°C) and +500 (260°C). Please note, that there is a difference between the temperature on the seal and the process-temperature due to the friction which releases additional energy/heat.

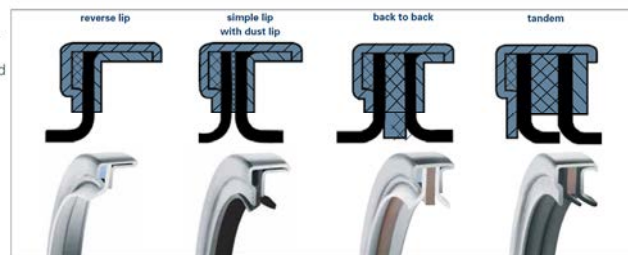
Garlock PS-SEAL Non-Standard are shaft seals in standard sizes with different configurations of their seal lips and different materials (see page 10).

STANDARD CONFIGURATION



ADVANTAGES AT A GLANCE

- » Useable under high pressure and extreme vacuum
- » Very suitable for high circumferential speed
- » Temperature resistant from -130°F (-90°C) up to 500°F (260°C)
- » Excellent chemical resistance
- » Useable in food and pharma applications (FDA)
- » EN 1935/2004 certificate
- » SIP/CIP compatible
- » Good dry running capability
- » Wear resistant and low friction



Garlock Sealing Technologies

Garlock
SEALING TECHNOLOGIES

ISO-GARD® GP

- Versatile seal protects critical bearings in both purging and sealed operating environments
- Special design retains lubricants and excludes contaminants in grease purge system
- Grease purge is easy—no need to unseat the seal or disassemble the equipment
- Patented, aggressive holding feature keeps seal in place where you want it—in the bore



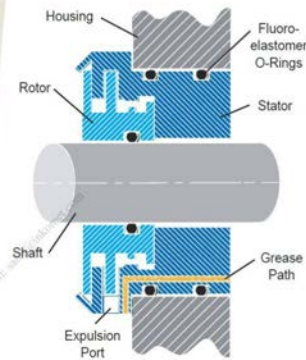
Ordering Information

Electric Motor Frames Sizes

Frame Size	Seal Size (Inches)	ISO-GARD® Part No.
135	1.312 x 1.000 x 0.625	29502-4146
182	0.875 x 1.875 x 0.750	29502-4267
182T	1.125 x 1.125 x 0.750	29502-4139
184	0.875 x 1.875 x 0.750	29502-4267
184T	1.125 x 1.125 x 0.750	29502-4139
212	1.375 x 2.375 x 0.750	29502-4141
213	1.125 x 1.125 x 0.750	29502-4139
213T	1.375 x 2.375 x 0.750	29502-4141
218	1.125 x 1.125 x 0.750	29502-4139
218T	1.375 x 2.375 x 0.750	29502-4141
250	1.768 x 1.750 x 0.750	29502-4350
284D	1.375 x 2.375 x 0.750	29502-4141
284T	1.625 x 2.625 x 0.750	29502-4348



Grease Purge Design



ISO-GARD® Split Pillow Block

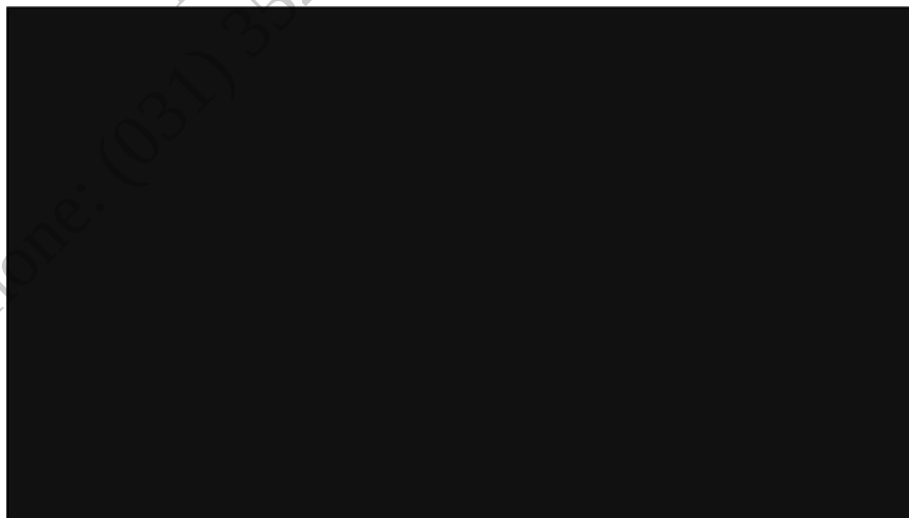
- Replaces LER (depth exclusive) and "Twin" seals
- Requires no housing modification
- Replaces LER and "Twin" seals
- Replaces LER and "Twin" seals



Seal in your profits™ with Garlock KLOZURE™ bearing isolators

Garlock Sealing Technologies

Garlock
SEALING TECHNOLOGIES



Garlock Sealing Technologies

Garlock
SEALING TECHNOLOGIES



GRUNDFOS

BE > THINK > INNOVATE >



GRUNDFOS ALPHA
UPS, UP Series 100



GRUNDFOS COMFORT
UP-N, UP-B Series 100



UPS Series 200



SPKE, CRKE



DME, DMS



DMM



UPE Series 2000



TP



LM, LP, CLM



CR, CRI, CRN



CR, CRN high pressure



CRT



NB, NBG



NK, NKG



NME, NPE, DNME, DNPE



UqTec



CV, CPV, CPH



CRE, CRIE, CRNE



NBE



NKE



SPK, CHK, MTH, CRK, MTR



CU 3, CU 300, CU 301



JP



CH, CHN

SCHUH - GARUDA- SCHAUMBERG



Product Feature

- 1/2" NPT
- 1/4" NPT
- 1/8" NPT
- 1/16" NPT
- 1/32" NPT
- 1/64" NPT
- 1/128" NPT
- 1/256" NPT
- 1/512" NPT
- 1/1024" NPT
- 1/2048" NPT
- 1/4096" NPT
- 1/8192" NPT
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Hebei Goldpro New Materials Technology



GRINDING BALL / BALL CHARGE



PRODUCTS



Forged Grinding Balls



Grinding Cylpebs



Grinding Rods



Casting Ball



Impact testing machine

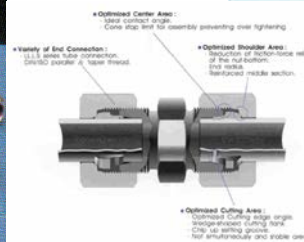


Laboratory spectrometer



HRS-150 Type Digital Rockwell Hardness Instrument

HY-LOK CORPORATION



Ball Valve



Check Valve



Needle Valve



Manifold & Gauge Valve




RADAR		GUIDED WAVE RADAR		VISUAL INDICATION		ULTRASOUND				
										
Pulsar™ Pulse Burst Radar Transmitter	Horizon™ 703 Basic GWR Transmitter	Horizon 704 Mid-range GWR Transmitter	Eclipse® Advanced GWR Transmitter	Aurora™ Magnetic Level Indicator	Echotel® 910 Economical Level Switch	Echotel 91S Self-Testing Level Switch	Echotel 335 Integral Mount Transmitter	Echotel 300 Versatile Transmitter	Echotel 344 Remote Mount Transmitter	

BUOYANCY			THERMAL DISPERSION		VIBRATING ROD		CAPACITANCE		
									
Top Mount Float Type Level Switch	External Cage Float Type Level Switch	TUFFY® Float Type Level Switch	Modulevel® Displacer Type Level Transmitter	A10 Series Top Mount Displacer Switch	Thermatel® Thermal Dispersion Level/Flow Switch	Thermatel TAF Mass Flow Transmitter	Solitel® Vibrating Rod Level Switch	Kotron® 811 Single Point Level Sensor	Kotron 805 Loop-powered Smart Transmitter




DESCALE THE TOUGHEST MINERAL DEPOSITS

For more than 75 years, RYDLYME **biodegradable** industrial descaler has been used to safely and efficiently dissolve tough mineral deposits, such as **water scale, lime scale, calcium, rust and even struvite**. This revolutionary descaler is fortified with a complex formula of wetting and penetrating agents that dissolve mineral deposits into solution for quick and easy disposal.

RYDLYME has been tested by independent EPA-approved labs and has accumulated several approvals and recommendations including:

- NSF-registered for use in industries including beverage, pharmaceutical, bottling and food processing plants
- NSF/ANSI Standard 60-certified as a cleaner for potable water systems
- U.S. Navy
- Countless OEMs in a wide array of industries across the world

RYDLYME IS NON-CORROSIVE

It will not erode, pit, oxidize or have other deleterious effects on metals or materials such as:

• IRON	• COPPER
• FIBER	• RUBBER
• STEEL	• PLASTIC
• BRASS	• CERAMIC
• GLASS	• TITANIUM
• NICKEL	• STAINLESS

Or other materials found in water-based equipment or systems.




WHY RYDLYME?

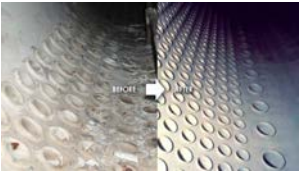
- 100% BIODEGRADABLE WITHOUT NEUTRALIZATION!
- NON-HAZARDOUS!
- SAFE TO HOLD IN YOUR HAND WITHOUT INJURY!
- FAST-ACTING!
- SAFE ON METALS & MATERIALS FOUND IN WATER-OPERATED EQUIPMENT!
- NSF/ANSI 60 CERTIFIED FOR USE IN POTABLE SYSTEMS!
- SAFE TO DISPOSE DOWN NORMAL DRAINS & SEWERS!



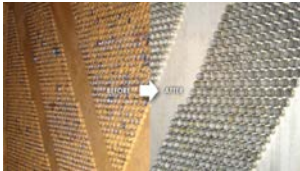
RYDLYME
World's Leading Biodegradable Descaler



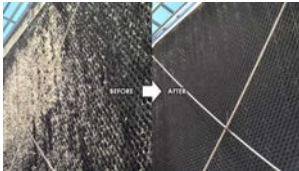
**APEX
ENGINEERING
PRODUCTS
CORPORATION**



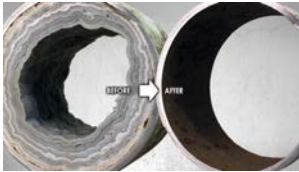
Boiler before and after RYDLYME cleaning



Stainless steel condenser before and after RYDLYME cleaning



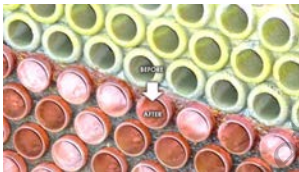
Cooling tower before and after RYDLYME cleaning



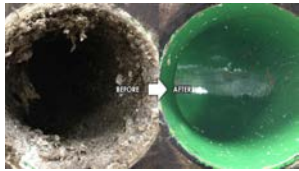
Piping (fly ash washdown) before and after RYDLYME cleaning



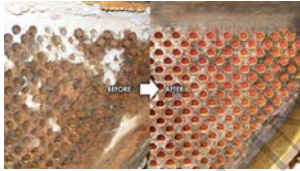
Heat exchanger (shell side) before and after RYDLYME cleaning



Chiller tubes before and after RYDLYME cleaning



Wastewater piping (struvite) before and after RYDLYME cleaning



Absorption unit before and after RYDLYME cleaning

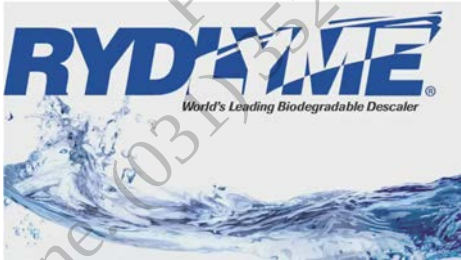




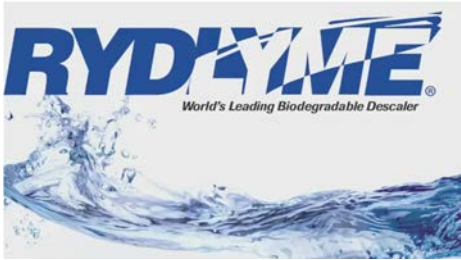
RYDLYME
World's Leading Biodegradable Descaler



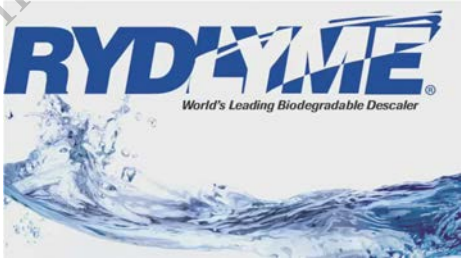
**APEX
ENGINEERING
PRODUCTS
CORPORATION**



RYDLYME
World's Leading Biodegradable Descaler



RYDLYME
World's Leading Biodegradable Descaler



RYDLYME
World's Leading Biodegradable Descaler



RYDLYME OUT
RYDLYME IN
No need to disassemble!

SCHUBERT & SALZER INC.

Sliding gate control valve 8021
 Nominal size: DN 15 - 250
 Nominal pressure: PN 10 - 100, ANSI # 150 - 600
 Media temperature: -60°C to +350°C, optional -196°C to +530°C
 Material: carbon steel, stainless steel, Hastelloy
 Positioner: pneumatic, analogue electro-pneumatic, digital electro-pneumatic, Ex-i version, AS-i bus connection

Suitable for extreme temperatures

Cavitation
 A high rate of flow through the narrowest cross section of a valve will lower the local pressure below the vapour pressure of the liquid. Vapour bubbles form which then break in the regions of higher pressure. When they come into contact with field boundaries (valve body), the implosion bubbles can cause damage. In the case of a sliding gate valve, these danger cavitation zones are external, or more accurately, they are located about 1-2 m beyond the valve. The cavitation bubbles then collapse around the centre of the pipeline where they can cause no harm.

SCHUBERT & SALZER INC.

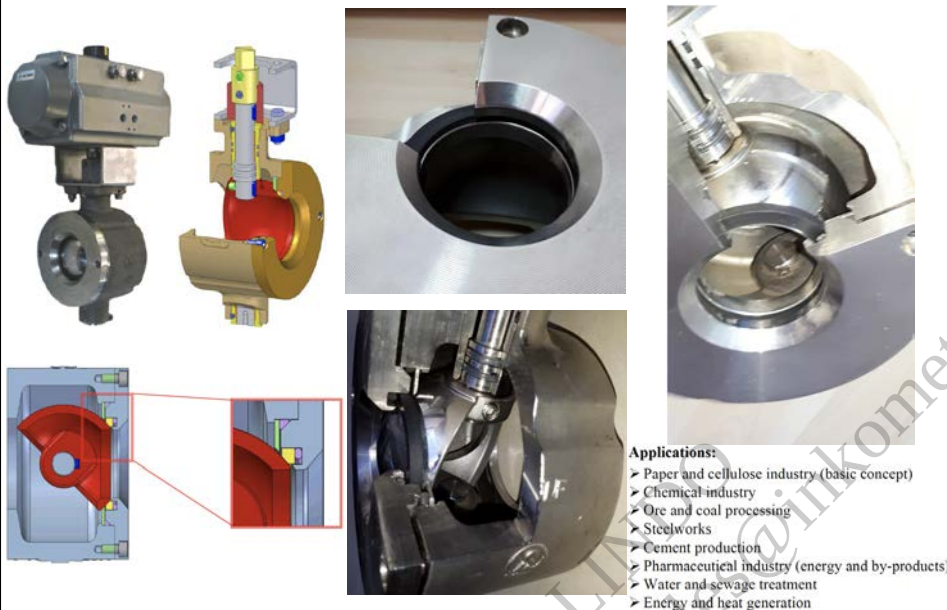
$$\frac{F_{A, \text{sliding gate valve}}}{F_{A, \text{seat valve}}} = \frac{\Delta p \cdot \mu \cdot A_{\text{seat}}}{\Delta p \cdot A_{\text{seat}}} = 10\%$$

$$F_A = \Delta p \cdot A_{\text{seat}}$$

$$F_A = \Delta p \cdot \mu \cdot A_{\text{seat}}$$

Nominal size	DN15	DN25	DN50	DN100	DN150	DN200	DN250
Sliding gate valve	4	11	45	154	338	560	910
Seat cone valve	4	10	40	160	250	360	630

SCHUBERT & SALZER INC. BALL SECTOR VALVE



SKISUI ESLON VALVE



SEKISUI SCH80 PVC & CPVC Piping Systems

エスロンクリーンパイプシステム Eslon CLEAN PIPE SYSTEM

エスロンクリーンパイプは、溶出特性に優れた経済的な超純水用クリーン管材です。

Eslon Clean Pipes & Fittings are Excellent in Super High Purity, Chemical Resistance and Lower Construction Cost.



ESLON VPFW - HTFW (FRP REINFORCED PVC & HT PIPE)

- High pressure & high temperature resistance.
- 2 types of VPFW are available according to working pressure and temperature.
- Inner PVC Pipe for VPFW 15~300A : Eslon Plant VP Pipe, 350~600A : Eslon VU Pipe
- 2 types of HTFW Pipe (Inner HT Pipe : T-17 or P-10) are available according to chemical application. (Standard type : T-17)
- Lightweight and easy handling.

PIPES AND FITTINGS

ESLON U-PVC PIPE

U-PVC PIPE FOR PORTABLE WATER (ESLON VPW & Hi-PipeGold+ (plus) (Hi-VPW-G))

- Excellent corrosion resistance.
- Conform to Food Sanitation Law.
- Durable flow rate with smooth inner surface as no scale or rust.
- Eslon 161 pipe has more than twice of impact strength compared to normal PVC type.

ESLON SOLVENT CEMENT NO.73S

- Standard type.
- For small and medium diameter piping.

ESLON PVDF

- Excellent chemical resistance in high temperature.
- Excellent UV & gamma ray resistance.
- Excellent abrasion resistance, mechanical properties, and electrical isolation.

ESLON CPVC PIPE AND FITTINGS (ESLON HT)

- For high temperature application.
- Excellent durability and thermal insulation.

Size (JIS K 6776)

Eslon Plant Hyper BK (PE100)

- Excellent earthquake resistance.
- Excellent chemical resistance.
- Highly UV resistance. Suitable for exposed piping.
- Easy to install.

Victaulic, USA

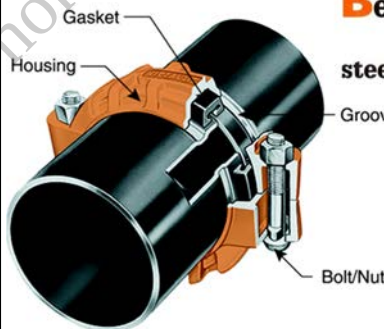


Grooved End Mechanical Piping System



Because time is money.

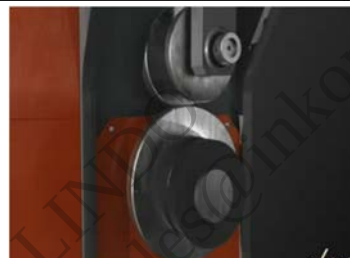
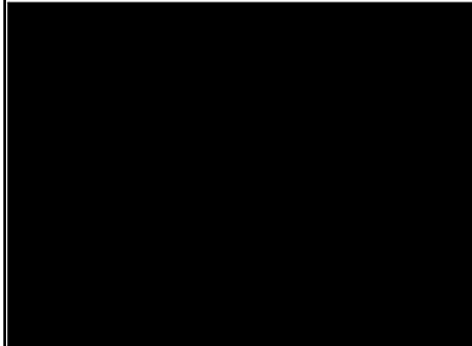
The Victaulic® system for steel industry piping systems.



- FASTER INSTALLATION.
- 3-4 TIMES FASTER THAN WELDING
- CLEAN PIPING SYSTEM
- NO WELDING
- NO FLANGE
- NO THREADING
- NO FIRE HAZARD
- NOISE & VIBRATION ATTENUATION.
- NO CERTIFIED WELDER REQUIRED.
- NO x-RAY JOINT REQUIRED.
- COMPLY TO ASME B31.1, 31.3, 31.9 AND 31.11 POWER PIPING.



Victaulic, USA



GENERAL PRODUCTS

PIPE

- Carbon steel A106B, A53B, API5L-B, A333, A335 (Sch STD, 40, 80, XS, XXS)
- Stainless steel ASTM A312 TP 304, 304L, 316, 316L, 316Ti, 317L. (Sch 10s, 20s, 40, 80s)
- Heat resistance steel (up to 1200 deg C) AISI 310S, 253MA. (Sch 40 & 80).
- Special alloy steel

PIPE FITTING

- Carbon steel ASTM A234-WPB Butt Weld Fitting (Sch SGP, STD, 40, 80, STD, XS, XXS, 160)
- Forged Carbon Steel ASTM A105. Screw or Socket Weld (class 3000, 6000 lbs)
- Stainless Steel ASTM A403 TP304, 304L, 316, 316L. Butt Weld (Sch 10, 40, 80)
- Stainless steel ASTM A182 F304, 304L, 316, 316L. Screw or Socket Weld

TUBING

- Hydraulic tubing. Steel ST 35.8
- Instrument tubing stainless steel 316. ASTM A269 TP316
- Copper tubing BS 2871 and Pneumatic tubing (Nylon, Polyethylene & PTFE)

TUBE FITTING

- Compression type tube fitting, flare type, push-in type, solder/brazing type.

Available in copper, brass, carbon steel and stainless steel 316.

FLANGE

- Welding neck, slip on, plate, blind, threaded, socket weld, RTJ
- Carbon steel A105, A181 and stainless steel ASTM A182 F304, 304L, 316, 316L.
- Pressure rating: ANSI 150, 300, 600, 900, 1500, 2500.
- Available in JIS, BS and DIN standard.

GENERAL PRODUCTS

PLATE

- Carbon steel, stainless steel (304, 304L, 316, 316L, 316Ti, 317L, 310S, 321, 253MA), pressure vessel (ASTM A516 Gr. 70, DIN 17155 Gr. 16 Mo 3)
- Wear / abrasion resistance steel plate. Hardness: 400BHN
- Special alloy steel, Corten A and Duplate

BAR

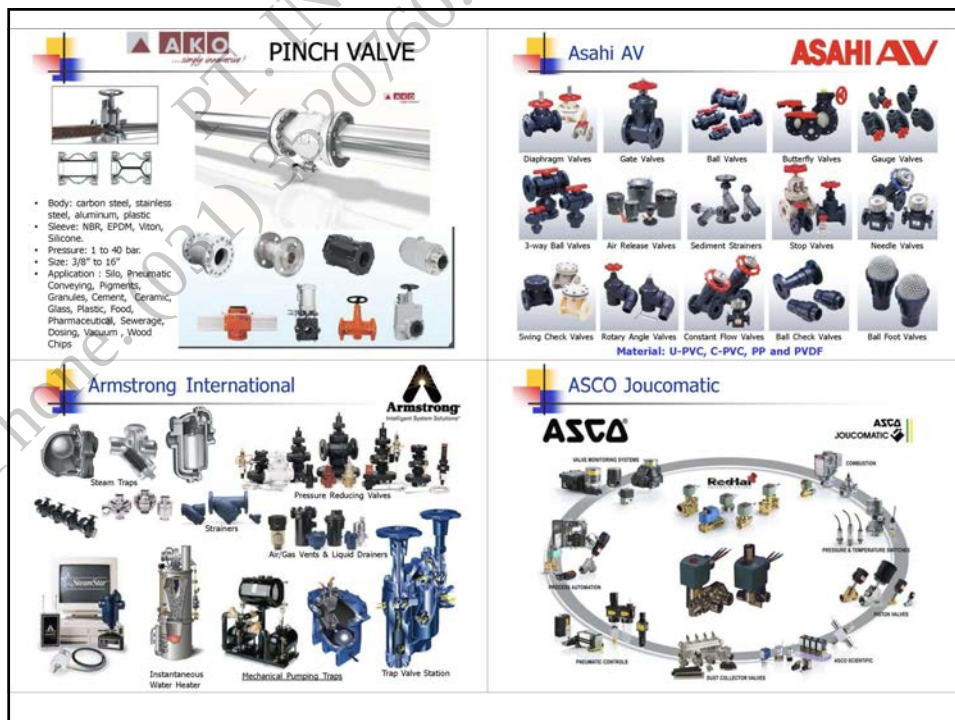
- Round, hollow, flat, square, hexagonal
- High tensile strength carbon steel, machinery steel, tool steel, plastic mould steel, stainless steel (304, 304L, 316, 316L) and heat resistance steel (AISI 310S and 253MA)

VALVE

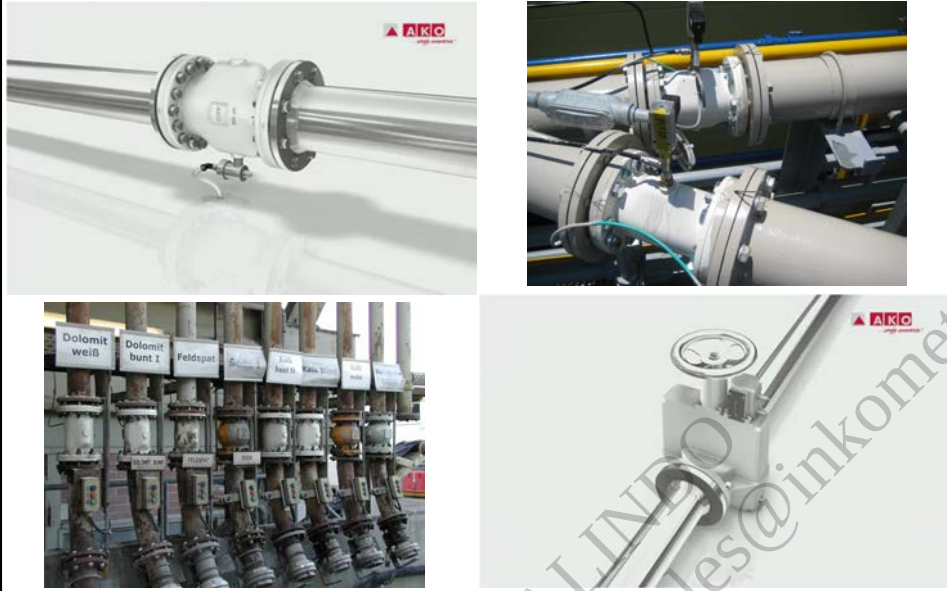
- Gate, globe, swing/lift check, full/reduced bore ball, butterfly, angle globe, double door check, diaphragm, lubricated plug, knife gate, blow down, pressure reducing, safety relief, simplex/duplex strainer, etc.
- Available in brass, bronze, cast iron, ductile iron, malleable iron, cast/forged carbon steel, cast/forged stainless steel, special alloy steel, coated/lined body.

OTHER PRODUCTS

- Angle bar, wide flange beam, I-beam, C-channel, U-channel, Diamond saw blade, non asbestos woven brake lining, stud bolt & nut (A193-B7 & A194-2H).



AKO Pinch Valve



Bradken Duaplate is a chromium carbide composite cladding that is fusion bonded to a base material. Duaplate is renowned for being one of the most abrasive resistant surfaces available. Duaplate® Applications: - Gravel screens - Silo & hopper liners - Quadrant plate and bands - Quadrant strip liners and interlocks - Gravel walls - Impact walls and plates - Mill & crusher liners - Truck Tires liners - Ball plates - Gravel Millboard Liners - Ball mill rubber liners - For shafts - Conveyors - Gravel Screens - Vibratory Feeders - Rotating Screens - Transfer Screens - General wear plates - Ball plates for forward feeders and crushers - Collector drums - Non-ferrous liners - Drilling pipe parts - Chopper heads - Chopper liners	CERA SYSTEM® more than ceramics Cera Valve® Cera Flex® Cera Plate® Cera Enclosure® Application: Abrasive, Corrosive, High Temperature, Dry Bulk Industries: Power Plant, Steel Mill, Pulp & Paper, Fertilizer, Mining Pressure: PN 10 ~ 64, ANSI 150 ~ 600 Temperature: -25 ~ 950 C Size: 1/2" ~ 12" Ball: Zirconium Dioxide, Silicon Nitride Seat: Aluminium Oxide Body: SS 316, Hastelloy, Titanium, Monel																								
BS & B Rupture Disc BS-B Explosion Vent	CRANE ChemPharma Energy <table border="1"> <tr> <td>ELTRO</td> <td>Duo-Chek</td> <td>NOZ-Chek</td> <td>CRANE</td> <td>CRANE</td> <td>CRANE</td> </tr> <tr> <td>ELRO</td> <td>Ry</td> <td>Sealand</td> <td>WALZ</td> <td>COMPAC-NOZ</td> <td>CRANE</td> </tr> <tr> <td>PSI</td> <td>STOCKHAM</td> <td>ICOMOX</td> <td>CRANE</td> <td>RESISTOFLEX</td> <td>RESISTOFLEX</td> </tr> <tr> <td>Angle</td> <td>DEPA</td> <td>RESISTOPARC</td> <td>Uni-Chek</td> <td></td> <td></td> </tr> </table>	ELTRO	Duo-Chek	NOZ-Chek	CRANE	CRANE	CRANE	ELRO	Ry	Sealand	WALZ	COMPAC-NOZ	CRANE	PSI	STOCKHAM	ICOMOX	CRANE	RESISTOFLEX	RESISTOFLEX	Angle	DEPA	RESISTOPARC	Uni-Chek		
ELTRO	Duo-Chek	NOZ-Chek	CRANE	CRANE	CRANE																				
ELRO	Ry	Sealand	WALZ	COMPAC-NOZ	CRANE																				
PSI	STOCKHAM	ICOMOX	CRANE	RESISTOFLEX	RESISTOFLEX																				
Angle	DEPA	RESISTOPARC	Uni-Chek																						

Fukui Seisakusho



FUKUI SAFETY VALVE
Contribution in Various Fields

Market: Mainly in Japan, Korea, China, Taiwan, Southeast Asia, and Middle East.
 Major Plant: Mainly in Japan, Korea, China, Taiwan, Southeast Asia, and Middle East.
 Business: Mainly in Japan, Korea, China, Taiwan, Southeast Asia, and Middle East.

LEDICON



	LED	Incandescent
Service life	50,000 hours	1,200 hours
Watts	6-8 watts	60 watts
KWh/year	329 KWh/year	3285 KWh/year
CO Emission	415 Bu/yr	4500 Bu/yr
Heat emitted	3.4 Btu/hr	85 Btu/hr

KSB Amri



Butterfly valves, actuators and systems

Nuova Fima



OKUMURA



High Performance Butterfly Valves, Knife Gate Valves, Softon Liner Butterfly Valve, Hydraulic Piston Valve, Rubber Liner Butterfly Valve

Rolled Alloys, USA

Specialists In:

- Heat Resistant Alloys
- High Temperature Aerospace Alloys
- Nickel & Cobalt base Alloys
- Corrosion Resistant Alloys
- Titanium Alloys

Product forms:

- Plate
- Fittings
- Sheet
- Flanges
- Bar
- Billet
- Pipe
- Welding Consumables

Heat Resistant Alloys: RA333, RA330, 353MA, 353MA, 800HAT, 601, 602CA, 309, 310, 446
 Corrosion Resistant Alloys: AL-6XN, 200, 201, 2205, 400, 625, C276, C22, B2, B3
 High Temperature Alloys: 625, 718, X750, Rene41, Waspalloy, A-286, 188, 321
 Titanium Alloys: Ti Gr 1, 2, 3 & 4, Ti 6Al-4V, Ti 6Al-6V-2Sn, Ti 10V-2Fe-3Al, Ti 10V-2Fe-3Al

Parker Portable Filter Cart



Filtering new fluid before putting into service
 Transferring fluid from drums or storage tanks to system reservoirs
 Conditioning fluid that is already in use
 Complementing existing system filtration
 Removing free water from a system
 For use with fluids such as hydraulic, gear and fuel oils

Saunders Diaphragm Valve



Wet Type "A", Straight Through Type "R", Free Flowing Type "V", Free Flowing Type "W"

Senior Flexonics





Poppet valve



Diverter



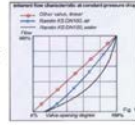
Lower



Radial Vane

SCHUBERT & SALZER Ball Sector Valve

- Application :** On/Off & Throttling of Fluids
- Media :** Flyash, Cement, Minerals, Pulp, Slurries
- Body & Ball :** SS 316, SS 316 Ti
- Seat :** PTFE, PEEK, Stellite SS 316
- Seal :** Viton, EP, FEP, Atlas, Kelrez
- Pressure :** PN 10 ~ 40, ANSI 150 & 300
- Temperature :** - 60 ~ 220 Deg. C
- Size :** 1" ~ 10" (Kvs : 0.025 ~ 3840)
- Connection :** Wafer Body
- Controls :** Equal Percentage
- Features :**
 1. Resist Abrasion
 2. Excellent Control Characteristic
 3. High Turn Down 100 : 1
 4. Light Weight, Low Torque

SCHUBERT & SALZER Angle Seat Valve

- Application :** Steam, Liquids, Gases, Compressed Air
- Function :**
 1. On/Off or Regulating
 2. Normally Close or Open
- Actuator :** Pneumatic or Electric
- Body :** SS 316, Bronze, Brass
- Seat :** PTFE, Viton, EPDM, NBR, PEEK
- Pressure Class :** PN 16 & 40
- Temperature :** - 30 ~ 220 Deg. C
- Size :** 1/2" ~ 3"
- Connection :** Sorno, SW, Flange
- Features :** Long Service Life, High Cycling






SHIE YU MACHINE

HAIR INDUSTRIAL CO., LTD.




TAIYO Parker

Engineering Your Success

- Hydraulic equipment
- Pneumatic equipment
- Electric equipment

- Shock Absorber
- Vacuum equipment
- Diaphragm pump












United Electric, USA

UNITED ELECTRIC CONTROLS

United Electric the leader in **pressure and temperature Threshold Detection and Switching™**











TESCOM REGULATOR




- Function :** Pressure & Back Pressure Regulator
- Application :** Gas & Liquid
- Actuator :** Spring or Air Operated
- Pressure :** Vacuum to 20,000 Psi (133 Bar)
- Capacity :** Cv.06 to 5
- Materials :** Brass, Aluminum, Stainless Steel 316
- Features :** Sensitive, Accurate, Durable, High Cycle, Vacuum

VAAS Valve, India

VAAS





VAAS KNIFE GATE VALVES

Seojeon Valmac   Globe Control Valves  Pressure Safety Valve     Hi-Temperature & Pressure Wear Resistant Ball Valve Triple Offset Butterfly Valve Desuperheater Valve CO Gas Control Valve	XOMOX   TU LINE  TU LINE
VAMEIN BUTTERFLY VALVE   RUBBER SEAT  PTFE SEAT • Body / Disc : Ductile Iron, Cast Steel, Stainless Steel, Aluminium Bronze, Aluminium, Bronze • Seal : EPDM, NBR, Butyl, Hypalon, Viton, Silicone • Application : Water, Oil, Gas, Compressed Air, Cement, Food & Beverage, High Temp. (180 °C), Chemical • Pressure : 2" ~ 12" (16 Bar), 14" ~ 80" (10 Bar) • Temperature : - 40 ~ 180 °C • Size : 2" ~ 80", PN 10 / 16, ANSI 125 / 150 • Connection : Wafer, Flange, Lug Type	YOSHITAKE INC   Air Vents Sight Glasses Y Strainers Expansion Joints  Basket Strainers Duplex Strainers  Temperature Regulators Pressure Reducing Valves Safety Relief Valves Solenoid Valves

ASAHI AV  VAMEIN 	Forbes Marshall  AKO  ... simply innovative!
VAAS  Armstrong  Intelligent System Solutions™	TAIYO  Parker  Engineering Your Success
+GF+  senior  Flexonics 	HY-LOK CORPORATION  Bording Bellows  Garlock  SEALING TECHNOLOGIES SAUNDERS 
Magnetrol®  FUKUI 	OKM  OKUMURA ENGINEERING corp. CERA SYSTEM®  more than ceramics BS&B  SAFETY SYSTEMS