

World Class Bellows Seal Globe Control & Isolation Valves

Environment Friendly
Protecting the
Environment by
Stopping Chemical
Leaks.



High Performance.

Reliable Closure.

Repeat Operation.

1000s in Service.

Technical Expertise.

=



Customers

Better by Design.

High Grade Materials.

Longer Lasting.

Easier Maintenance.



Bellows Seal Globe
Control Valves

Sizes

DN25 to DN 300

1" to 12"



Bellows Seal Globe
Actuated Valves

Sizes

DN15 to DN 400

1/2" to 16"



Bellows Seal Globe
Isolation Valves

Sizes

DN15 to DN 400

1/2" to 16"



Spare Parts
For All
Product Groups

euro
chlor 17.



THE CHLORINE INSTITUTE
Aim for Zero

Pamphlet 6



SAVE MONEY

Just 1 hour lost production equates to 100s of times of the difference in cost of a Bellows Seal Globe Valve versus an inferior design of shut off valve. Be money smart and fit Euro Chlor approved Bellows Seal Globe Valves which will outperform other designs repeatedly for many years.

Typical Hazardous Chemical Applications



U.S.A.



Liquid Chlorine
Pump Skid.
Bellows Seal
Manual Valves.



China



Liquid Chlorine
Storage Tanks.
Bellows Seal
Actuated Valves.



China



Hydrogen Cyanide
Process line.
Actuated Bellows
Seal Valve.



U.K.



Liquid Chlorine
Process line.
Bellows Seal
Control Valve.



India



Liquid Chlorine
Pumping
Station.
Bellows Seal
Actuated and
Manual Valves.



Venezuela



Liquid Chlorine
Filling Station.
Bellows Seal
Actuated and
Manual Valves.

When you need to Protect People, Processes and the Environment.

ISO 9001:2015 & European Pressure Equipment Directive
UK Pressure Equipment Regulations Conforming Manufacturer.

Approvals & Certification

Hunt & Mitton's Manual Bellows Seal Globe valves and Bellows Seal Globe Control valves are fully approved by Euro Chlor to GEST 17/492. Our Actuated Bellows Seal ON/OFF Globe valves are also approved to certificate No 19/01 and we are one of only six manufacturers in the world to have achieved this standard. We were the first to have their approved manufacturing location outside Europe. We also meet the requirements of USA Chlorine Institute Pamphlet 6. Our full range of Bellows Seal Globe valves are also qualified to tightness class AH and endurance class C03 over the operating temperature range of -46 °C to 200 °C following type testing in accordance with EN ISO 15848-1. Our Quality Management System is certified approved to ISO 9001:2015 by LRQA and we have a Certificate of Conformity to Module H of the European Pressure Equipment Directive 2014/68/EU issued by Lloyd's Register Netherlands B.V. We are also certified by LR UK with a certificate of conformity to the new UK Pressure Equipment (Safety) Regulations 2016. These certificates entitle us to CE mark product supplied to EU customers and UKCA mark product supplied to UK customers.



World Class

With close attention to the detail of each aspect of the valve design and a high specification of materials of all components, the Hunt & Mitton range of isolating, actuated ON/OFF and control valves provides a World Class solution for the isolation and/or control of hazardous liquids and gases.



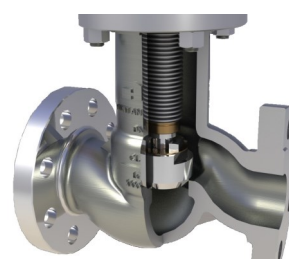
Safety & Environment

The chemical industry has continued to develop over the last 100 years at a staggering pace. Some of the chemicals manufactured are the corner stone of many of the most common materials used today. However, these basic chemicals can be highly dangerous to people and the environment. As the demands of the chemical producers have increased, Hunt & Mitton Valve Company have developed their product range to meet their customer's very stringent needs. This is especially so in today's, safety aware and environmentally friendly world in which we live.



100% Radiography

When customers require zero fugitive emission from the valve's stem or bonnet, you have to be able to ensure the product performance can match it. Our Bellows seal design ensures that the fluid stays inside the valve and dangerous emissions to people, plant and the atmosphere do not escape. Our pressure envelope wall thicknesses are in accordance with Euro Chlor specifications. Small valve bodies and all sizes of bonnets are forgings. Larger valves have cast bodies which are radiographed to ensure high quality. **Hunt & Mitton Valve Company offer 100% radiography of all castings of Euro Chlor approved valves.**



No other Euro Chlor approved manufacturer achieves this level of casting quality.

Does your existing supplier rely on statistical chance for radiography of their castings? Typically 90% of their castings are not checked for defects. We offer radiography of 100% of the volume of every casting so that we can be certain each casting meets the Euro Chlor specified ASTM E446 Level 2 acceptance criteria. Another reason why our valves give world class performance.

HMV do not take chances in hazardous chemical applications.

Who wants this



When you can have this.



Low alloy steel bolting Xylan® Coated to minimise corrosion.

When you design and manufacture products that last and can be maintained to enable additional years of service, then it makes sense to ensure that the correct bolting can be removed without damaging the valve body flanges. In the hazardous chemical sector it can be a corrosive environment. Untreated or poorly treated barrier corrosion won't prevent severe build up of surface damage to bolts, studs and nuts, making them very difficult to remove. At Hunt & Mitton we have been treating our connectors with a Xylan® self lubricating coating, to ensure that corrosion is kept to a minimum and that body parts can be undone for critical inspection and repair if necessary. All of our valves being used on hazardous chemical applications have connectors treated with highly effective self lubricating anti corrosion barrier protection.



Safety of People and Equipment



The days of workers being considered expendable are thankfully behind us. When the plant operators are working with hazardous chemicals it is critical to ensure that these dangerous fluids are controlled and always kept inside the pipework system. Leaks from moving stems, joints and the side walls of valves due to severe corrosion, all need to be eliminated. In addition, the selection of suitable materials for critical components will play a big part in ensuring the safety of the people working around the equipment. Hunt & Mitton have over 60 years of experience in producing valves that protect your fluids and more importantly the safety of your people.

Team Celebrates 6,000th Valve for Hazardous Chemical Service



March 2022.

The manufacturing team in Dafeng China celebrate the production of the 6,000th bellows seal globe valve.

Our customers have ensured that we are now well on our way to 10,000 valves.

Control Valves for Hazardous Chemical Applications

Series 5801 Bellows Seal and 5601 Packed Gland Globe Control Valves

Sizes 1" to 12" (DN25 to DN300)

Body Material cast –A352 LCC C Steel, A351 CF8M St Steel, A494 M35-1 NiCu, CW12MW NiCrMoW, CY40 NiCrFe.

End connections— Class 150, Class 300, Class 600, PN16, PN25, PN40.

Our bellows seal control valve product combines the knowledge and know-how of hazardous chemical valves, designed for isolation and zero leakage to the environment, with control valves designed for modulating applications. This range has been approved by Eurochlor to be in accordance with the stringent environmental safety features of GEST 17/492 standard whilst maintaining the functionality of control valves such as longer stroke to provide a better flow modulation, smoother flow paths and a better pressure recovery factor compared to that of an ON/OFF globe valve. The body assembly has a wider chest to allow the use of more sophisticated trims such as multi-stage low noise for gases and anti-cavitation for liquid applications.

Applications

Severe services for hazardous chemicals including the following fluids:

Cl ₂	Chlorine - Liquid and Gas
HF	Hydrogen Fluoride Liquid and Gas
COCl ₂	Phosgene
AHCl	Anhydrous Hydrogen Chloride
EDC	Ethylene DiChloride
VCM	Vinyl Chloride Monomer
NH ₃	Liquid Ammonia
HCN	Hydrogen Cyanide
TiCl ₄	Titanium Tetrachloride (Tickle)



Meets the requirements of body wall thickness of Euro Chlor GEST 17/492.

Valve Sizing Coefficient / Cv Rating for Contoured, Single-Stage and Double-Stage Trims for ASME Class 150, Class 300, Class 600, PN16, PN25 and PN40 Series 5601 & 5801 Control Valves.

Series 56/801 Bellows Seal Control Valves	CV DN25	CV DN40	CV DN50	CV DN80	CV DN100	CV DN150	CV DN200	CV DN250	CV DN300
Valve Stroke	18	25	25	30	40	50	75	100	100
Contour/Ported Cage EQ%	19	40	58	130	190	406	660	1100	1400
Contour/ Ported Cage Linear	19	40	58	130	190	406	730	1150	1600
Single Stage Cage Linear	19	39	55	114	190	400	657	1100	1350
Single Stage Cage EQ%	17	35	55	110	190	382	620	1010	1250
2 Stage Cage Linear Liquid anti cavitation	9	21	26	52	88	172	345	565	680
2 Stage Cage Linear low noise Gas	10	23	33	62	96	188	360	580	700

The above represent the standard flow capacities. Reduced capacities including trickle spline trims are also available for each valve size for lower flow applications. 3 and 4 stage Linear Cages can be provided if required for high pressure drop conditions.



Hunt & Mitton Valve Company

Hazardous Chemical Valves

Features of Bellows Seal Globe Control Valves

Throttling and control function with zero leakage to atmosphere, reliable process isolation and robust designs for ease of operation and maintenance.

- Control valve body with long stroke to enable good fluid control from the minimum to maximum process conditions.
- Special trims designed to suit specific applications: variety of options available including contoured, single-stage and multi-stage catering for a variety of fluid conditions including noisy gases and flashing/ cavitating liquids.
- Field proven designs and decades of service experience in a wide range of applications in the chemical, oil, gas, petrochemical and power industries.
- 2 or 3 ply UNS N10276 bellows and UNS N10276 end rings.
- Open bellows design for ease of examination and maintenance and no bellows damage due to trapped corrosion products.
- All testing performed to the requirements of the latest Euro Chlor GEST 17/492, ANSI B16.34 and ANSI/ FCI 70.2 .
- Flow characteristics: Linear, Equal Percentage and specials.
- Sizing software for fluid flow capacity and noise calculations in accordance with IEC 60534-2-1 and IEC 60534-8-3 respectively.
- Variety of actuators, positioners and accessories as per end-user's requirements. Pneumatic spring diaphragm/ piston-cylinder and electro-hydraulic actuators. Pneumatic, electro-pneumatic and SMART(HART) and Fieldbus enabled positioners. Limit switches and solenoid valves.

Valve Design Features

Body & Bonnet

- Minimum wall thickness in accordance with GEST 17/492 (BS1873/API623).
- GEST 17/492 NDE including castings to ASTM E446 Level 2.
- All material options available, carbon steel (LT, HT), stainless steel, duplex stainless steel and nickel alloy.
- ISA-75.08.01-2002 standard face-to-face class 150 series 37, class 300 series 38, and class 600 series 39.

Bellows

- Bellows guaranteed for at least 100,000 Open/Close/Open cycles per GEST 17/492.

Auxiliary Stuffing Box

- 5 ring PTFE chevron packing set, spring loaded, requires no routine maintenance.
- Leak detection tapping to the inter space between bellows seal and auxiliary gland available as option.

Bolting

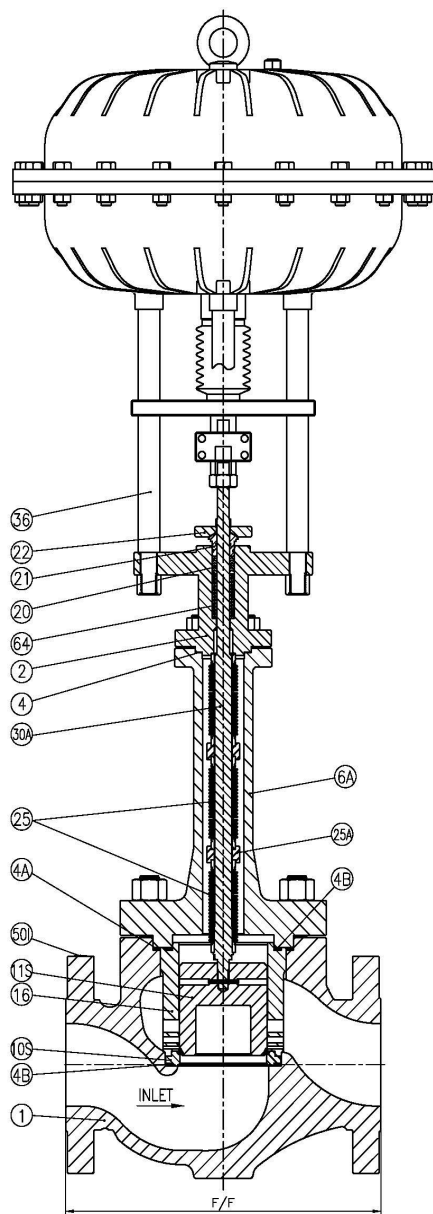
- Low alloy steel bolting Xylan® coated to minimise corrosion and to facilitate easy maintenance.

Trim

- Replaceable.
- Stellite sealing surface as standard. Soft seal seat available as option.
- Plug pinned to stem to ensure repeatable flow control.

Series 5801 General Arrangement Drawing

Parts & Material List



Typical Material Selection for Liquid Chlorine Service

ITEM NO.	DESCRIPTION	QTY.	MATERIAL
1	BODY	1	ASTM A352 LCC
2	BONNET	1	ASTM A350 LF2
4	BONNET/CONNECTOR GASKET	1	GYLON 3510
4A	BODY/CONNECTOR GASKET	1	MONEL/GRAPHITE
4B	SEAT/INNER SLEEVE GASKET	2	MONEL/GRAPHITE
6A	BODY/BONNET CONNECTOR	1	ASTM A350 LF2
10S	SEAT	1	UNS N06022+STELLITE 6
11S	PLUG	1	UNS N06022+STELLITE 6
16	SLEEVE	1	UNS N06022
20	PACKING SET	1	PURE PTFE
21	GLAND FOLLOWER	1	316 SS
22	GLAND PLATE	1	316 SS
25	BELLOWS	3	UNS N10276(2.4819)
25A	BELLOWS CONNECTOR RING	2	UNS N06022
30A	STEM	1	UNS N06022
36	ACTUATOR MOUNTING PILLAR	4	UNS S31803
50I	INLET PLATE	1	316 SS
64	PACKING SPRING	1	302 SS

Other Materials are available.

Material Selection will be changed to suit the application.

Actuated Bellows Seal Globe Isolation Valves Series 8850/1.

Sizes Forged 1/2" to 2" (DN15 to DN50)

Body Material - C. Steel A350 LF2, S. Steel F316.

Sizes Cast 2 1/2" to 16" (DN65 to DN400)

Body Material - A352 LCC C. Steel, A351 CF8M St. Steel, A494 M35-1 NiCu, CW12MW NiCrMoW, CY40 NiCrFe.

End connections—1/2" to 1 1/2" (DN15 to DN40) Screwed End, Socket Weld.
1/2" to 16" (DN15 to DN400) flanged Class 150, Class 300, PN16, PN25 and PN40.

Series 8850/1 are SIL3 Capable.

The valves can be fitted with air regulator sets, Solenoid valves for open or emergency shutdown and or, air lock valves for fail in place. A greater level of flexibility to meet customer operational and control needs of their processes.



Features & Benefits

Containment of Dangerous Emissions

All valves are fitted with a UNS N10276 bellows seal guaranteed for 20,000 Open/Close/Open cycles. Valves are also designed with back up secondary pure PTFE packing glands and seals as standard.

Repeatable tight closure and isolation.

For metal to metal seated valves the disc is harder than the seat minimising disc damage during operation ensuring long life for the seating surfaces.

Polymer ring soft seat plugs are also available.

Open Bellows Design

Our design of open bellows and bolted top assembly gives easy access to inspect the bellows assembly area. The open design ensures that any corrosion products in the fluid do not get trapped around the bellows causing damage and early failure.



Casting quality and wall thickness

Small valve bodies and all sizes of bonnets are forgings. Cast body quality is monitored by 100% radiography inspection. Wall thickness is in accordance with Euro Chlor specifications.

Hunt & Mitton Valve Company offer 100% radiography of all castings of Euro Chlor approved valves.

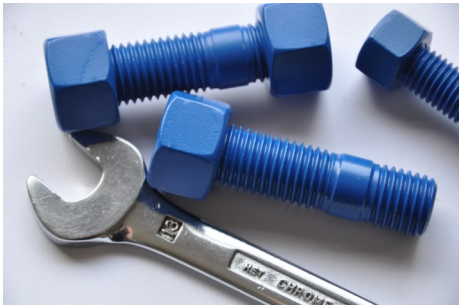
Actuated Bellows Seal Globe Isolation Valves Series 8850/1.

Actuators

Pneumatic or electric actuators are available. The valves can be fitted with air regulator sets, Solenoid valves for open or emergency shutdown and or, air lock valves for fail in place.

Xylan® coated

All studs and nuts are coated with Whitford Xylan® anti corrosion, self lubricating compound .

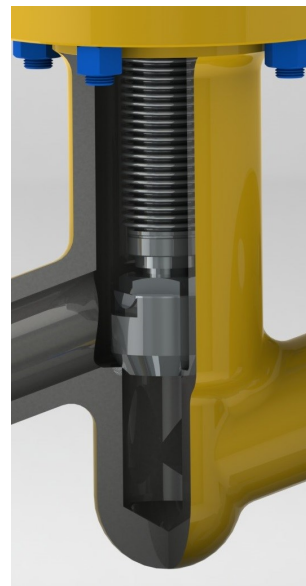


Bellows seals are made from UNS N10276 with UNS N10276 end rings. They are welded to the bonnet and stem and the welds are subject to 100% DPI and an external test at 57 barg for a minimum of 10 minutes to confirm zero leakage.

Seat and plug are stellite finished to ensure a hard wearing and positive shut off.

Design & Performance

With a strength in design and excellent materials for the containment and isolation of hazardous liquids and gases, the Fig 8850/1 range has built an enviable reputation for long service life and excellent performance.



Hunt & Mitton HM Series Rolling Diaphragm Pneumatic Actuators

Sizes = HM280, HM530, HM530D, HM960, HM960D, HM960T.

Max Operating Air Press = 6 Bar g

Operating Temperature Range = -25°C to 120°C

Range of Thrust (N) = 1,536 to 50,508.

Stem Travel Range = up to 75mm

Rolling Diaphragms have been type Tested with over 1,000,000 cycles.

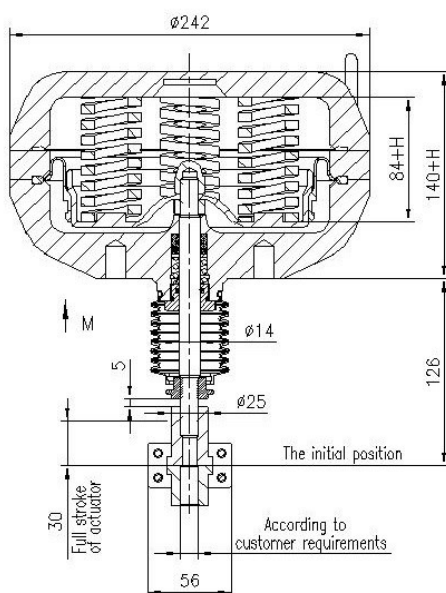
HM Series Actuators are SIL3 Capable.

Actuators are a key component in the operator's ability to control, open or close a valve on his process line. Many end users prefer pneumatic actuators driven by compressed air. Our range of HM Series actuators are spring opposed rolling diaphragm actuated converting air pressure into linear travel of the valve stem. Depending on the air supply pressure, actuator configuration and different control signals the actuator will produce the appropriate forces at the stem.

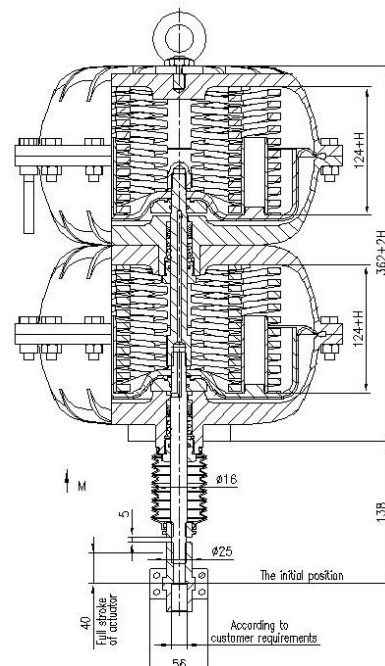
Fail Open (FO) or Fail Closed (FC)

The assembly of the springs and diaphragm can be reversed to allow changes from fail open to fail close or in reverse. This offers greater flexibility for distributors and end users. Air inlet connections are 1/4" NPT above and below the diaphragm.

For higher thrust applications we offer double or triple mounted actuators as shown below.



HM FC (Fail Closed version shown)



HM FC (Fail Closed version shown)

Lifting eye bolts are fitted for the convenience of fitting the actuator to the valve body. They are not designed for lifting the combined valve and actuator. For larger sizes of control valves a separate lifting points are included on the valve body.

Cast Diaphragm Housing. The actuator diaphragm housings are made of precision cast Aluminium alloy ACD12 or carbon steel A216WCB.

Actuator Pillars are made of Duplex Stainless Steel.

Stem Connection is via a screwed adaptor secured with a block clamp.

Diaphragms are made of Neoprene and nylon mesh which has been type tested to over 1 million open/close/open cycles without failure.

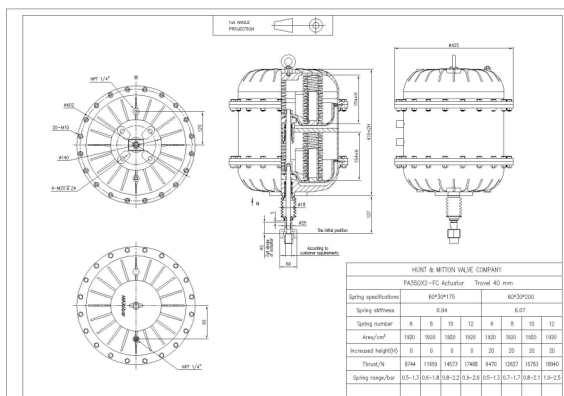
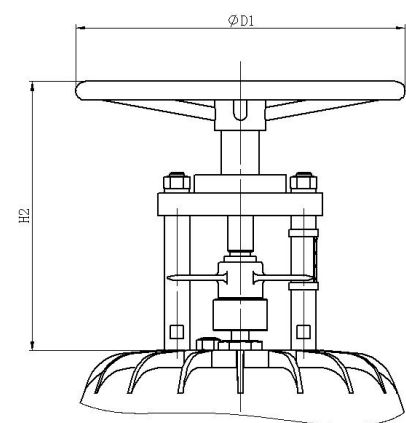
Manual Override Handwheels are available as an option to provide an extra level of safety in the event of a loss of electrical or pneumatic power. See below.

Hazardous Chemical Environment compatible with A4 marine grade bolting to resist corrosion.

Accessories are available to suit customer requirements and specifications and are supplied fitted to the valve.

Selection each actuator is selected to match each control valve or actuated ON/OFF valve by our team of engineers. The criteria of valve size, valve trim, application fluid, pressures, temperatures, pressure differential, amount of supply air pressure and travel required are all taken into consideration. FAT testing and documentation are all registered at the factory before delivery.

Maintenance is easily carried out with easy access to all internal parts via the actuator cover. All replacement parts are available as required. The pre tensioned springs within the actuator are safety released via the extended bolts on the actuator cover.



Note—Other types of actuators are available and may be offered on large valve sizes.

Manual Bellows Seal Globe Isolation Valves—Series 8800/1 Straight Pattern Series 8901 Angle Pattern

Sizes Series 8800 1/2" to 2" (DN15 to DN50)

Body Material Forged - C Steel A350 LF2, S Steel F316.

Sizes Series 8801 2 1/2" to 16" (DN65 to DN400)

Sizes Series 8901 1" to 6" (DN25 to DN150)

Body Material Cast - A352 LCC C. Steel, A351 CF8M St Steel, A494 M35-1 NiCu, CW12MW NiCrMoW, CY40 NiCrFe.

End connections— 1/2" to 1 1/2" (DN15 to DN40) Screwed End, Socket Weld.

1/2" to 16" (DN15 to DN400) flanged Class 150, Class 300, PN16, PN25 and PN40.

Design & Performance

With a strength in design and excellent materials for the containment and isolation of hazardous liquids and gases, the series 8800/1 & 8901 ranges have built an enviable reputation for long service life and excellent performance.

Containment of Dangerous Emissions

All valves are fitted with a UNS N10276 bellows seal guaranteed for the life of the valve. Valves are also designed with back up secondary pure PTFE packing glands and seals as standard.

Repeatable tight closure and isolation.

For metal to metal seated valves the disc is harder than the seat minimising disc damage during operation ensuring long life for the seating surfaces.

Open Bellows Design

Our design of open bellows and bolted top assembly gives easy access to inspect the bellows assembly area. The open design ensures that any corrosion products in the fluid do not get trapped around the bellows causing damage and early failure. The bellows are guaranteed for the life of the valve.

Casting quality and wall thickness

Small valve bodies and all sizes of bonnets are forgings. Cast body quality is monitored by 100% radiography inspection. Wall thickness is in accordance with Euro Chlor specifications.

Hunt & Mitton Valve Company offer 100% radiography of all castings of Euro Chlor approved valves.

Hand Wheel Easy Operation

We have ensured that the manual valves are easy to operate using cast three or four spoke large diameter wheels and the use of needle and ball bearings are fitted on sizes 1 1/2" (DN40) and above to ensure easy operation and rotation when opening and closing the valve.

Xylan® coated

All studs and nuts are coated with Whitford Xylan® anti corrosion, self lubricating compound.



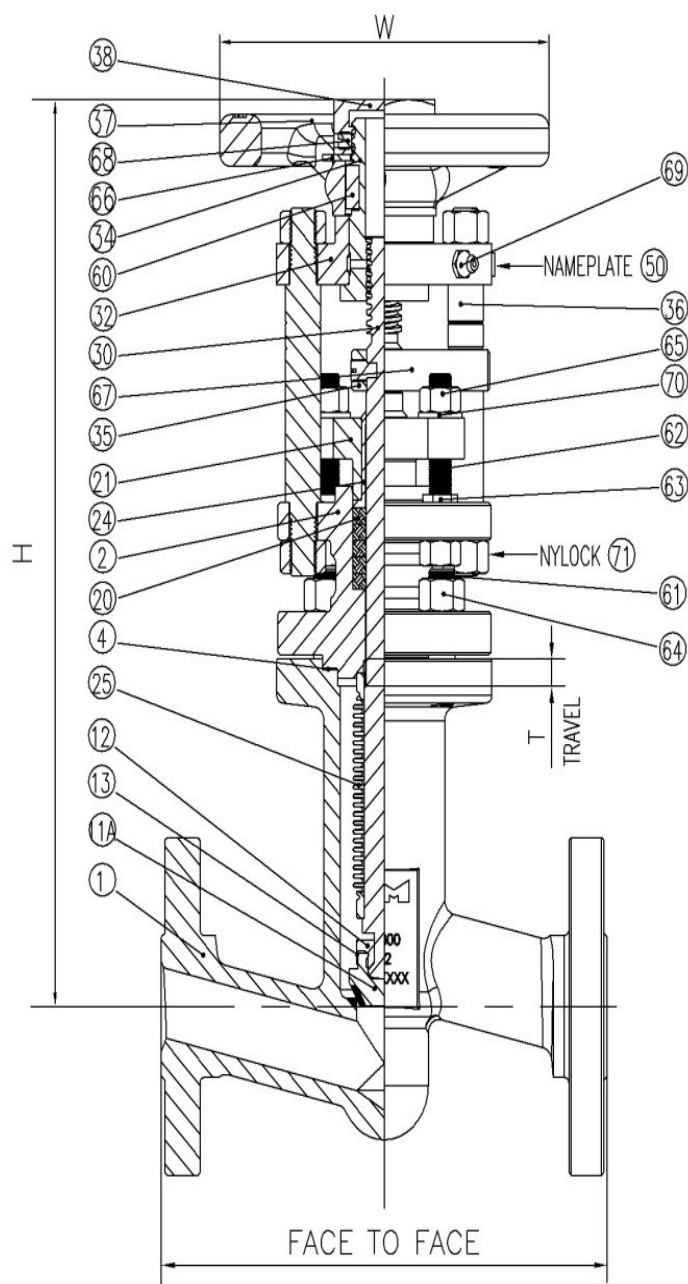
Series 8800/1



Series 8901

Standard Parts & Materials List for Liquid Chlorine Service

Series 8800/1, 8901		
Ref	Description	Materials
1	Body	Carb. St ASTM A350 LF2/A352 LCC + Stellite 21
2	Bonnet	Carb. Steel ASTM A350 LF2
4	Body/Bonnet Gasket	Gylon 3510
11A	Disc	Stainless Steel 316Ti (1.4571) + Stellite 6
12	Disc Nut	Stainless Steel UNS S43100, CuNi UNS N04400
13	Disc Lock Washer	Stainless Steel 316 /CuNi UNS N04400
20	Packing Ring	Pure PTFE
21	Packing Gland	Stainless Steel A182 F316
24	Gland Scraper Bush	PTFE
25	Bellows	UNS N10276 (2.4819)
30	Stem	SS UNS S31803 /NiCrMoW UNS N06022
32	Yoke Flange	Carb. Steel AISI 1035
34	Yoke Sleeve	Aust. Ductile Iron A439 D2
35	Anti Rotation Bridge	Carb. Steel AISI 1035
36	Pillar	Stainless Steel-316 / SS Duplex
37	Handwheel	SG Iron BS EN 1563 EN-GJS-420-12
38	Handwheel Locknut	Carb. Steel AISI 1035
50	Name Plate	Stainless Steel 316
60	Key	Carb. Steel AISI 1025
61	Stud	Alloy Steel A320 L7M Xylan 1424
62	Stud bolt	Alloy Steel A320 L7M Xylan 1424
63	Lock Nut	Stainless Steel A4-70
64	Nut	Alloy Steel A320 L7M Xylan 1424
65	Nut	Alloy Steel A320 L7M Xylan 1424
66	Washer	Carb. Steel AISI 1020
67	Dog Point Screw	Stainless Steel 316
68	Set Screw	Stainless Steel 316
69	Lubricator	A570 GR.A
70	Washer	Stainless Steel 316
71	Nut Nylock	Carb. Steel AISI 1045 / Nylock



The above materials are an example for a typical chlorine service. Other Material options are available for a wide range of hazardous chemical applications. Please consult the sales office.

Manual Packed Gland Globe Isolation Valves—Series 6800/1

Sizes Forged 1" to 1 1/2" (DN25 to DN40)

Body Material - C. Steel A350 LF2, S. Steel F316.

Sizes Cast 2" to 6" (DN50 to DN150)

Body Material - A352 LCC C. Steel, A351 CF8M St. Steel, A494 M35 -1 NiCu, CW12MW NiCrMoW, CY40 NiCrFe.

End connections— 1/2" to 1 1/2" (DN15 to DN40) Screwed End, Socket Weld.

1/2" to 6" (DN15 to DN150) flanged Class 150, Class 300, PN16, PN25 and PN40.

Design & Performance

With a strength in design in accordance with GEST 90/150 and excellent materials for the containment and isolation of hazardous liquids and gases, the Fig 6800/1 range has built an enviable reputation for long service life and excellent performance.

Containment of Dangerous Emissions

All valves are fitted with a pure PTFE packing twice the length of valve travel and protected by a gland scraper bush as standard.

Repeatable tight closure and isolation.

For metal to metal seated valves the disc is harder than the seat minimising disc damage during operation ensuring long life for the seating surfaces.

Packed Gland Design

Our design of packed gland combined with a deep packing chamber of more than twice the travel ensures zero leakage.

Casting quality and wall thickness

Small valve bodies and all sizes of bonnets are forgings. Cast body quality is offered with 100% radiography inspection.

Hunt & Mitton Valve Company offer 100% radiography of castings for hazardous chemical Service valves.

Hand Wheel Easy Operation

We have ensured that the manual valves are easy to operate using cast three or four spoke large diameter wheels and the use of needle roller thrust bearings fitted on sizes 3" (DN80) and above Class 300 rating, to ensure easy operation and rotation when opening and closing the valve.

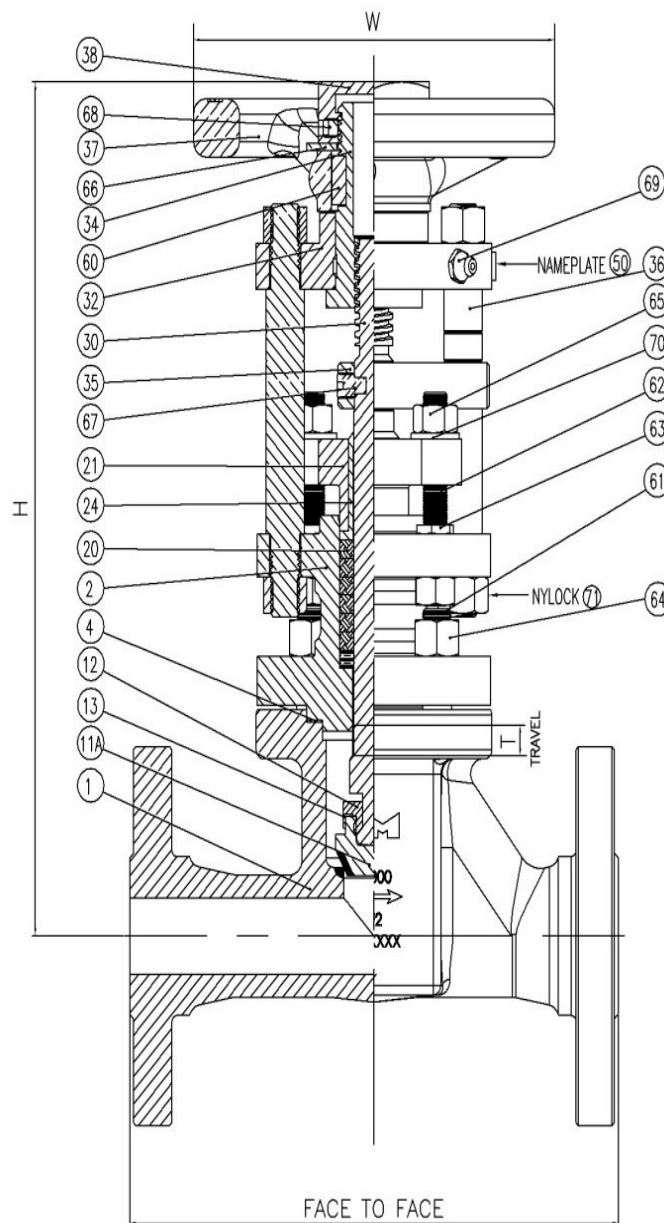
Xylan® coated

All studs and nuts are coated with Whitford Xylan® anti corrosion, self lubricating compound .



Standard Parts & Materials List for Liquid Chlorine Service

Series 6800/1		
Ref	Description	Materials
1	Body	Carb Steel ASTM A350 LF2 + Stellite 21 / Carb Steel ASTM A352 LCC + Stellite 21
2	Bonnet	Carb. Steel ASTM A350 LF2
4	Body/Bonnet Gasket	Gylon 3510
11A	Disc	Stainless Steel 316Ti (1.4571) + Stellite 6 Carb. Steel ASTM A350 LF2 + Stellite 6
12	Disc Nut	Stainless Steel UNS S43100 CuNi UNS N04400
13	Disc Lock Washer	Stainless Steel 316 CuNi UNS N04400
20	Packing Ring	Pure PTFE / Crosflon 905
21	Packing Gland	Stainless Steel A182 F316
24	Gland Scraper Bush	PTFE
30	Stem	Duplex UNS S31803 NiCrMoW UNS N06022
32	Yoke Flange	Carb. Steel AISI 1035
34	Yoke Sleeve	Aust. Ductile Iron A439 D2
35	Anti Rotation Bridge	Carb. Steel AISI 1035
36	Pillar	Stainless Steel 316 / SS Duplex
37	Handwheel	SG Iron BS EN 1563 EN-GJS-420-12
38	Handwheel Locknut	Carb. Steel AISI 1035
50	Name Plate	Stainless Steel 316
60	Key	Carb. Steel AISI 1025
61	Stud	Alloy Steel A320 L7M Xylan 1424
62	Stud bolt	Alloy Steel A320 L7M Xylan 1424
63	Lock Nut	Stainless Steel A4-70
64	Nut	Alloy Steel A320 L7M Xylan 1424
65	Nut	Alloy Steel A320 L7M Xylan 1424
66	Washer	Carb. Steel AISI 1020
67	Dog Point Screw	Stainless Steel 316
68	Set Screw	Stainless Steel 316
69	Lubricator	A570 GR.A
70	Washer	Stainless Steel 316
71	Nut Nylock	Carb. Steel AISI 1045 / Nylock



Other Material options are available for a wide range of hazardous chemical applications.
Please consult the sales office.

Manual Bellows Seal Globe Isolating Valves for Polymerisation

Series 8700/1

Polymerising Applications.

For applications on Hydrogen Cyanide (HCN) or Sodium Cyanide (NaCN) in which there is a possibility of polymerisation of the fluid. The design of the 8700/01 series valves incorporates a precision fixed disc and stem, a low internal volume internal body eliminating dead space and creating a smooth flow path for the fluid. The design of the bellows ensures that in the closed position the fluid can drain easily from between the convolutions.

Hunt & Mitton's globe pattern fig 8700/1 isolating valve gives tight shut off and zero emissions outside of the valve pressure envelope.

Manufactured to the highest standards by our team of engineers at the factory each valve must pass a 15 minute zero bubbles seat leakage test. The bellows units are guaranteed for 10,000 cycles. Test and Material certification are available for every valve we produce.

Sizes Forged 1" (DN25) and 2" (DN50).

Body Material - St. Steel or NiCrMoW Nickel alloy .

Sizes Cast 3" to 8" (DN80 to DN200).

Body Material - A351 CF3M St. Steel, CW12MW NiCrMoW Nickel Alloy.

End connections—Class 150, Class 300, PN16, PN25, PN40. Butt Weld.

Design & Performance

With a strength in design and excellent materials for the containment and isolation of hazardous liquids and gases, the Series 8700/1 range have built an enviable reputation for long service life and excellent performance.

Repeatable Tight Closure and Isolation.

For metal to metal seated valves the disc is harder than the seat minimising disc damage during operation ensuring long life for the seating surfaces. The disc and stem are of a precision fixed design preventing fluid entering between the parts and polymerising.

Fugitive Emissions

The Series 8700/01 bellows seal globe valves is qualified to tightness class AH and endurance class C03 over the operating temperature range of -46 °C to 200 °C following type testing in accordance with EN ISO 15848-1.

Bellows Design

Our design of open bellows and bolted top assembly gives easy access to inspect the bellows assembly area. The bellows design ensures that fluid can drain from within the bellows convolutions when the valve is closed.

International Projects

Our 8700/01 range of valves are used by International chemical producers on a range of Polymerisation processes for HCN and NaCN fluids.



Cv values and Face to Face Dimensions for Hand operated isolation valves and actuated Isolation valves.

Face to Face dimensions are in accordance with international standards:

ASME B16.10; BS EN 558; BS 2080; GB/T 12221; JIS B2002

Series 8800/1 - 8850/1	Cv Table						
Size	DN25	DN40	DN50	DN80	DN100	DN150	DN200
Globe Class 300 flow under	12	28	47	112	182	391	682
Globe Class 150 flow under	11	26	44	105	171	368	644

Series 6800/1 - 8700/1	Cv Table						
Size	DN25	DN40	DN50	DN80	DN100	DN150	DN200
Globe Class 300 flow under	12	28	47	112	182	391	682
Globe Class 150 flow under	11	26	44	105	171	368	644

Series 8800/1, 8850/1, 6800/1, 8700/1	Face to Face Dimensions							
Size	DN15	DN20	DN25	DN32	DN40	DN50	DN65	DN80
Class 150 Series 3 (Ball & Plug Valve)	N/A	117	127	N/A	165	178	N/A	203
Class 150 Series 10 (Globe Valve)	N/A	117	127	N/A	165	203	N/A	241
Class 150 Series 12 (Ball & Plug Valve)	130	130	140	N/A	165	203	N/A	241
Class 300RF Series 21 (Globe Valve)	152	178	203	N/A	229	267	N/A	318
Class 300LG Series 21 (Globe Valve)	162	187	213	N/A	238	276	N/A	327
Class 300LT Series 21 (Globe Valve)	165	191	216	N/A	241	279	N/A	330
Class 300RF Series 4 (Ball & Plug Valve)	140	152	165	N/A	191	216	N/A	283
PN16, PN25, PN40 Series 1	130	150	160	180	200	230	290	310
	DN100	DN125	DN150	DN200	DN250	DN300	DN350	DN400
Class 150 Series 3 (Ball & Plug Valve)	229	N/A	267	N/A	N/A	N/A	N/A	N/A
Class 150 Series 10 (Globe Valve)	292	N/A	406	495	622	699	787	914
Class 150 Series 12 (Ball & Plug Valve)	305	N/A	394	457	N/A	N/A	N/A	N/A
Class 300RF Series 21 (Globe Valve)	356	N/A	445	559	622	711	838	914
Class 300LG Series 21 (Globe Valve)	365	N/A	454	568	632	721	848	924
Class 300LT Series 21 (Globe Valve)	368	N/A	457	572	635	724	851	927
Class 300RF Series 4 (Ball & Plug Valve)	305	N/A	403	502	568	648	762	838
PN16, PN25, PN40 Series 1	350	400	480	600	730	850	980	1100

Inspection and Testing for Liquid Chlorine Applications

Process Control on essential components during manufacturing

- Visual check and dimensional inspection of body and bonnet, review material certificates and heat treatment chart.
- Radiography on the body casting and review the reports.
- Review of MPI/DPI certificates for body, bonnets and connector.
- Review of UT certificates of bar used for connector and bonnet forging.
- Visual and dimensional inspection of body connector & connector bonnet bolting material. Review of material certs. Confirm material identified with grade.
- Visual and dimensional inspection of stem, plug, cage and seat material Review of material certs. Confirm material identified with heat number.
- PMI of stem and all other non carbon steel materials.
- Visual and dimensional inspection of bellows. Review of material certs. Confirm material identified with heat number.
- Visual and dimensional inspection of PTFE gland packing from approved supplier.
- Visual and dimensional inspection of Body Connector.
- Gasket & Connector Bonnet Gasket from approved UK supplier.
- Visual and dimensional inspection of actuator, positioner and auxiliary items from approved supplier. Review of conformity certificates.
- Final Dimensional Inspection of components after machining. Confirm identification to material certificates.
- Hydrostatic Pressure Test at 1.5 x PS of body, connector and bonnet. High Pressure Pneumatic Test at 1.1 x PS of cast bodies under water.
- Clean components including welding slag on body internal surfaces. Degrease.
- Weld bellows to stem and bonnet. Record welding wire heat number and bellows stem and bonnet identification numbers.
- Inspection of bellows to stem and bellows to bonnet welds using DPI and Visual.
- External pressure test at 57 barg of bellows assembly without auxiliary gland packing.
- Assemble gland packing and pillars to bellows assembly. Record heat numbers Body, Bonnet, Plug, Seat and Stem. Also for Control Valve Connector and Cage.
- Pneumatic Pressure Test at 1.1 x PS of shell of partly open assembled valve. Pneumatic Pressure Test of seat. See Data Sheet for flow direction.
- Paint Epoxy coating. Dry each valve in oven at 120°C for minimum 3 hours. Fit metal blanking flanges with silica gel on inner face.
- Fit actuator, positioner and accessories per Data Sheet and functional test valve and actuator assembly.
- Final Inspection Visual, Dimensional, Body marking and identification plate, CE mark, Serial no, Painting, Flange Protection, SS Tag "CLEANED FOR CHLORINE SERVICE".

Hunt & Mitton Since 1842

We have come a long way since developing the original Hunt & Mitton hazardous chemical valves in the 1950s with ICI. We have improved our designs with modern materials, a deep understanding of chemical and material compatibility and control valve expertise. We have built a strong and experienced European management team who have assembled a highly skilled manufacturing team in China. Our design, supply chain and manufacturing processes have been independently assessed by European third party inspection agencies resulting in Euro Chlor approval for our bellows seal globe valves. We have surpassed the highest level of requirements in casting quality and our product sales are growing to blue ribbon chemical producers in Europe, Americas and Asia. We have achieved all of this whilst offering great service to our customers and partners. What's morewe are enjoying the journey.

Bellows Seal Design—Control Valves, ON/OFF Actuated & Manual.

Features & Benefits

- Designed in accordance with Euro Chlor's GEST 17/492 and conforming to the USA Chlorine institute pamphlet 6.
- Zero emission leakage due to bellows, auxiliary PTFE seals and Gylon body bonnet joints.
- Bellows fitted as standard and guaranteed for 20,000 cycles on actuated ON/OFF valves, 100,000 cycles on control valves or for life on manual valves.
- Control valve bodies made from castings for all sizes to give superior flow paths and high Cv values.
- Narrow seat contact surface with stellite seat and disc give repeatable tight shut off for ON/OFF Actuated & Manual valves
- Hand wheel with open and close direction complemented with bearings to allow easy, smooth and repeatable operation.
- Scraper bush fitted to ensure cleaning of stem.
- Body & bonnet tested to 1.5 x MCWP. Isolation valves seat leakage test to 1.1 x MCWP with zero bubbles leakage.
- Easy access to bellows for inspection and maintenance. Open design ensures that any corrosion products in the fluid do not get trapped around the bellows causing damage and early failure.
- Studs, bolts and nuts fully Whitford Xylan® coated giving anti corrosion protection and easy maintenance.
- **Hunt & Mitton Valve Company offer 100% radiography of all castings for hazardous chemical service of Euro Chlor approved valves.**

H & M Valve Company Ltd

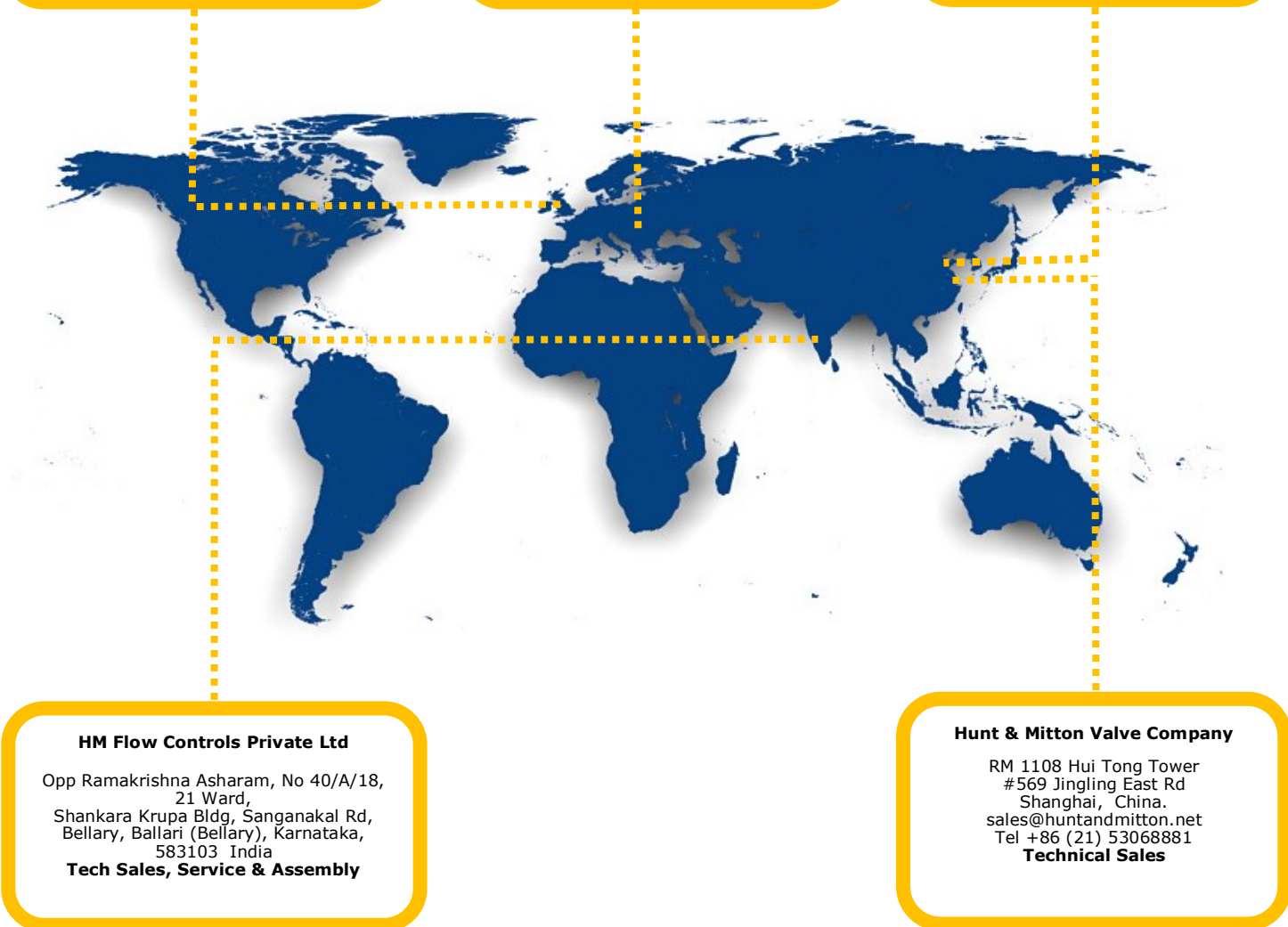
Cheadle Place Business Centre,
Stockport
SK8 2GL United Kingdom
Tel +44 (0)7903 564569
Technical Sales

H & M Valve Company Ltd

European Office
Cluj-Napoca
Romania
Tel +40 (0)751 170359
Technical

Hunt & Mitton Valve Company

No 1 Xinyuan Road,
Valve Industrial Park,
Dafeng District,
China.
Tel +86 (515) 83858602
Manufacturing



HM Flow Controls Private Ltd

Opp Ramakrishna Asharam, No 40/A/18,
21 Ward,
Shankara Krupa Bldg, Sanganakal Rd,
Bellary, Ballari (Bellary), Karnataka,
583103 India
Tech Sales, Service & Assembly

Hunt & Mitton Valve Company

RM 1108 Hui Tong Tower
#569 Jingling East Rd
Shanghai, China.
sales@huntandmitton.net
Tel +86 (21) 53068881
Technical Sales

Offices in



www.huntandmitton.com



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