

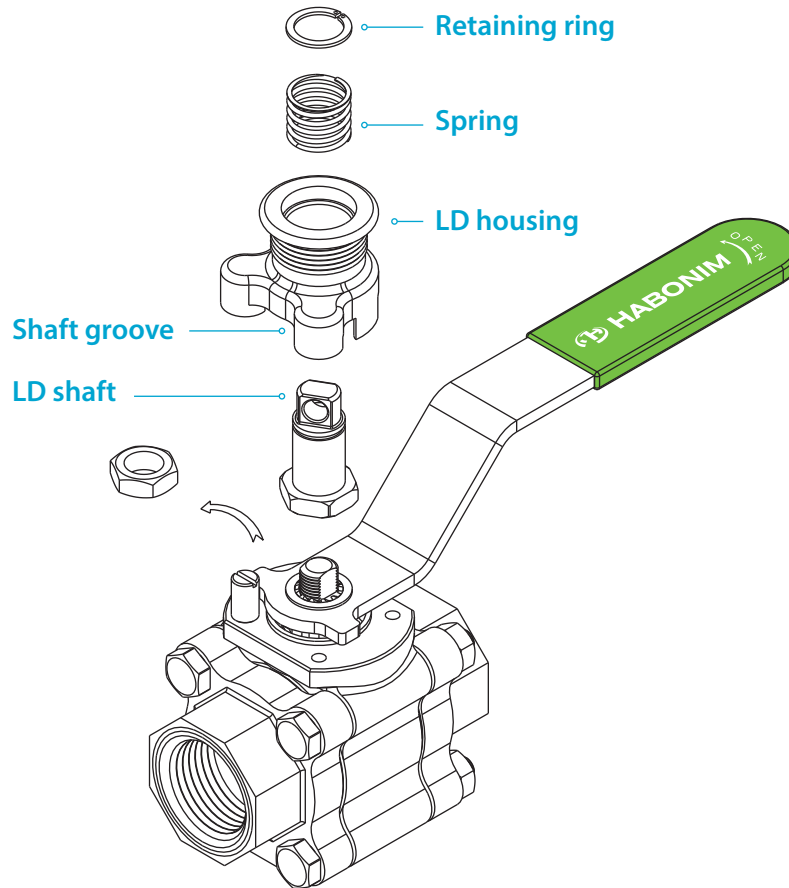
Valve accessories



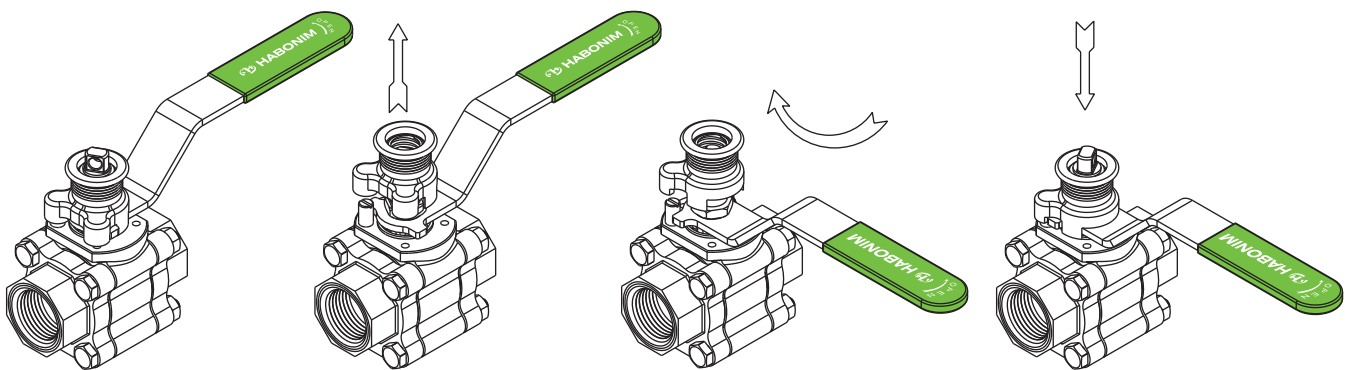
Locking device

Compare to standard sliding plate locking devices which are commonly used in the market, this unique spring loaded design maintain the valve in the close or open position at any installation orientation of the valve in the pipework. The Habonim LD allows the use of maximum 6 mm pad lock.

Locking device assembly for valves with ISO 5211 top mounting pad



Locking device operation



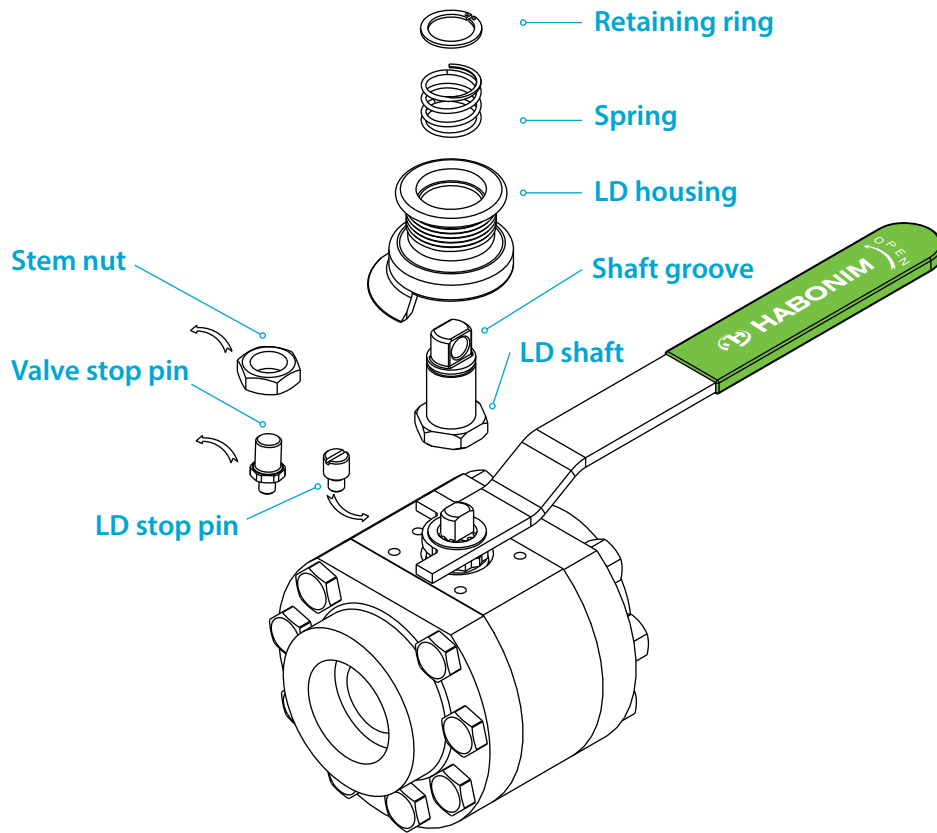
Valve locked in open position

Lift LD housing above valve stop

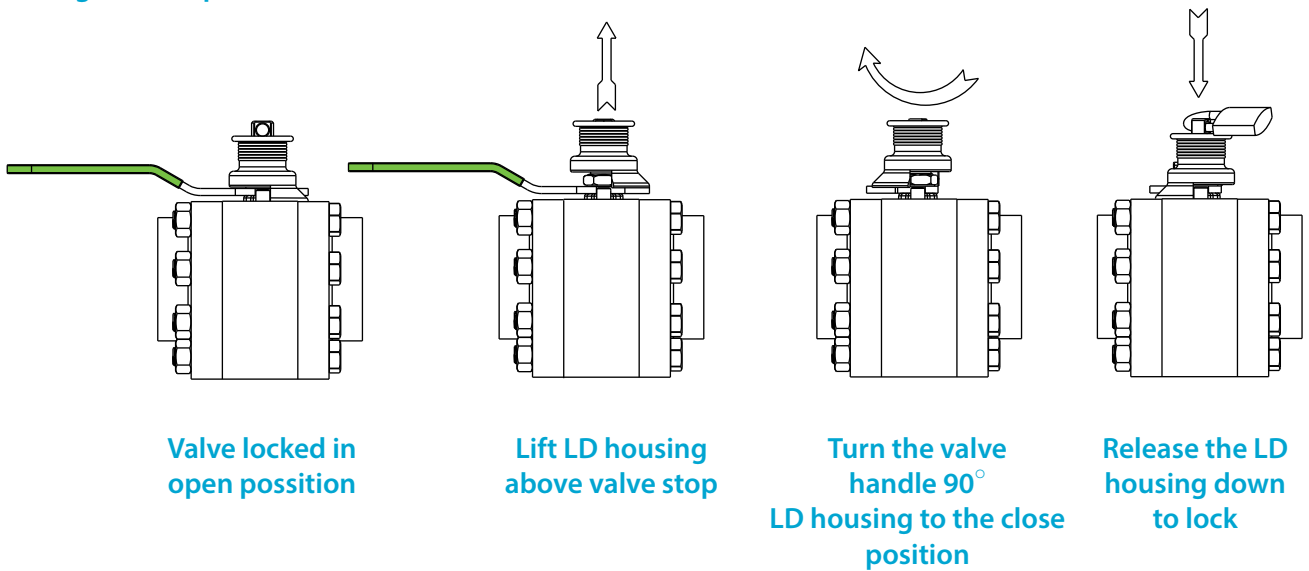
Turn the valve handle 90° LD housing to the close position

Release the LD housing down to lock

Locking device assembly for valves without ISO 5211 top mounting pad



Locking device operation



Fugitive emission solutions

Background

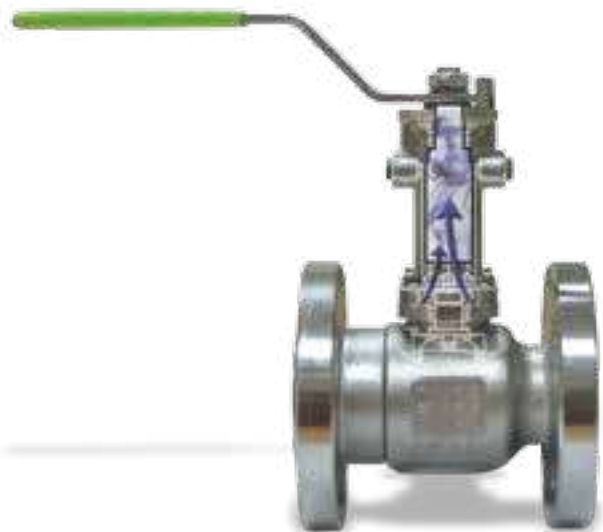
Industry is making major contributions towards improving our global environment by reducing hazardous emissions, reducing product losses and addressing environmental concerns. Since the advent of the "Clean Air Act Amendment" of 1990 (CAAA), introduced by the U.S. Environmental Protection Agency (EPA), industrial plants have revised their specifications regarding fugitive emissions.

The Challenge

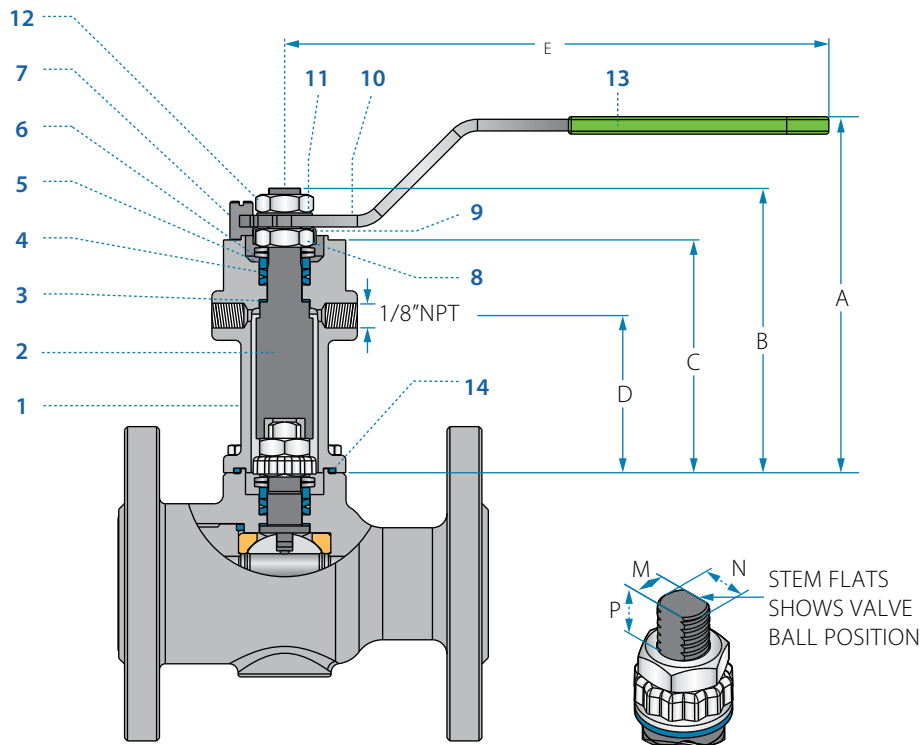
Eliminating product emissions is one of the most serious challenges for process industry and consequently can be most costly to control. As part of its Health & Safety initiative campaign Habonim has introduced additional Security to the valve stem design for critical applications.

Design features

- Modular design uses a double defence sealing concept. The first defence line is based on the valve stem seal arrangement, while the second line is integral with the F.E. bonnet.
- A machined lip on the bonnet bottom plane will ensure a safe fit over the valve ISO pad. A static seal will provide security to the atmosphere.
- The bonnet design allows a sensing device to be fitted between the two sealing arrangements, In case of first defence line failure an alert can be immediately identified.
- Any media is contained within the F.E. bonnet until valve maintenance can be safely held.
- Double blowout proof stems.
- Linear alignment between valve stem, extension and actuator to reduce side load.
- Rigid construction.
- Precision stem and packing bore finish.
- Fire-safe valve stem packing and valve connection to bonnet (upon request)
- Stainless steel cast CF8M housing material as standard.
- Exotic materials Alloy-20, Hasteloy-C22, Monel and more (upon request).
- Various solutions are offered by Habonim when sizing F.E. bonnets to customer applications: HC (high cycle), N (Control valves), KG (fire-safe and thermal applications), and the HermetiX™ Habonim patented stem packing.



Size 1/2"-2 1/2" | DN15-DN65



Components & materials

Item	Description	Material specification	Qty.
1	Body	ASTM A351 CF8M	1
2	Stem	ASTM A479 316/316L	1
3	Stem thrust seal	Virgin PEEK	1
4	Stem seal	TFM	1
5	Follower	B783 316L	1
6	Disc spring	17-7PH	2
7	Stop pin	ASTM A582 303	1

Item	Description	Material specification	Qty.
8	Stem nut	ASTM A194 316	1
9	Locking clip	A167 304	1
10	Handle	ASTM A240 430	1
11	Serrated washer	A240 410	1
12	Handle nut	ASTM A194 316	1
13	Handle sleeve	PVC	1
14	Bonnet seal	PTFE / GRAPHITE	1

Dimensions

Valve size		FE Size	A	B	C	D	S	M	N	P	F
DN15 & DN20	mm	05	114.00	89.10	80.00	55.25	150.00	5.50	3/8" UNF	7.20 (F03)	36.00
1/2" & 3/4"	inch		4.48	3.50	3.15	2.17	5.90	0.21		0.28	1.42
DN25 & DN32	mm	10	122.00	97.40	80.00	54.00	187.00	7.54	7/16" UNF	7.20 (F04)	42.00
1" & 1 1/4"	inch		4.83	3.83	3.15	2.12	7.36	0.29		0.28	1.65
DN40 & DN50	mm	15	154.00	129.40	100.00	77.00	236.00	8.71	9/16" UNF	80.00 (F05)	50.00
1 1/2" & 2"	inch		6.03	5.09	3.93	3.03	9.29	0.34		0.31	1.97
DN65	mm	25	144.00	118.10	100.00	76.50	236.00	8.71	9/16" UNF	13.50 (F07)	70.00
2 1/2"	inch		5.66	4.65	3.93	3.01	9.29	0.34		0.53	2.76

F.E. Stem operating torque

Reduced port Valve size	FE Size	HC / HermetiX™		AI packing		Control valves (N) / Graphite packing (KG)	
		N*m	lbf*inch	N*m	lbf*inch	N*m	lbf*inch
DN15 & DN20	1/2" & 3/4"	2.00	17.70	3.00	26.50	4.00	35.40
DN25 & DN32	1" & 1 1/4"	5.00	44.20	7.00	62.00	9.00	79.60
DN40 & DN50	1 1/2" & 2"	7.00	62.00	11.00	97.30	13.00	115.00
DN65	2 1/2"	7.00	62.00	11.00	97.30	13.00	115.00

Note: When sizing an actuator add the above figures to the valve operating torque

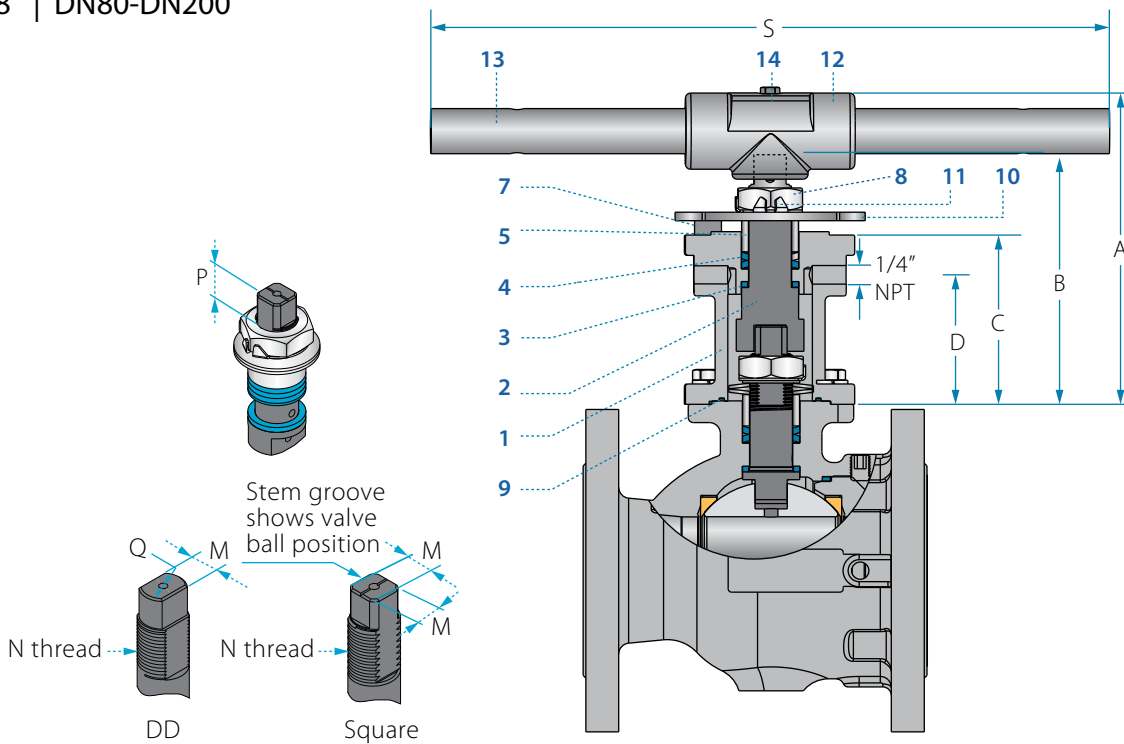
Valve accessories

Locking device

Fugitive Emission (FE)

Spring Return Handle (SRH)

Size 3"-8" | DN80-DN200



Components & materials

Item	Description	Material specification	Qty.
1	Body	CF8M	1
2	Stem	316/316L	1
3	Stem thrust seal	Virgin PEEK	1
4	Stem seal	TFM	1
5	Follower	B783 316L	1
6	Disc spring	17-7PH	2
7	Stop pin	ASTM A582 303	1
8	Stem nut	ASTM A194 316	1

Item	Description	Material specification	Qty.
9	Bonnet seal	PTFE / GRAPHITE	1
10	Stop plate	ASTM A240 430	1
11	Tab lock washer	ASTM A240 304	1
12	Wrench head	ASTM A47 MALEABLE IRON	1
13	Wrench handle	304	1
14	Wrench handle bolt	ISO 4014 A2-70	1

FE dimensions

Valve size	FE Size	A	B	C	D	S	M	M-DD	QB	N	P	F	
DN80 & DN100	30	mm	87.00	196.00	150.00	76.50	401.00	18.90	15.90	22.70	1" -14	16.70 (F10)	102.00
3" & 4"		inch	7.36	7.74	5.90	3.01	15.79	0.74	0.63	0.89	UNS-2A	0.66	4.02
DN150 & DN200	60	mm	273.00	219.00	150.00	100.00	401.00	18.90	15.90	35.20	1" -14	16.70 (F12)	125.00
6" & 8"		inch	10.74	8.62	5.90	3.93	15.79	0.74	0.63	1.36	UNS-2A	0.66	4.92

F.E. Stem operating torque

Reduced port Valve size	FE Size	HC / HermetiX™		Al packing		Control valves (N) / Graphite packing (KG)	
		N*m	lbf*inch	N*m	lbf*inch	N*m	lbf*inch
DN80 & DN100 3" & 4"	30	13.00	115.00	18.00	159.30	25.00	221.20
DN150 & DN200 6" & 8"	60	32.00	283.00	43.00	380.50	60.00	531.00

Note: When sizing an actuator add the above figures to the valve operating torque

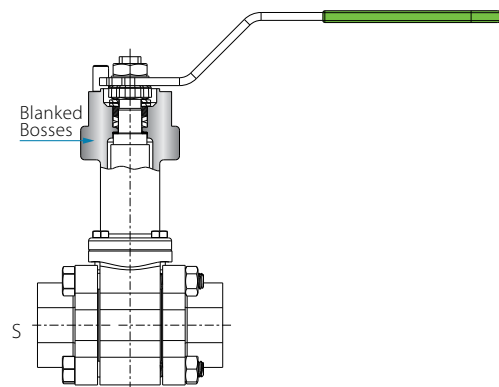
Additional options

Media Containment Unit (MCU)

Suitable for critical applications when:

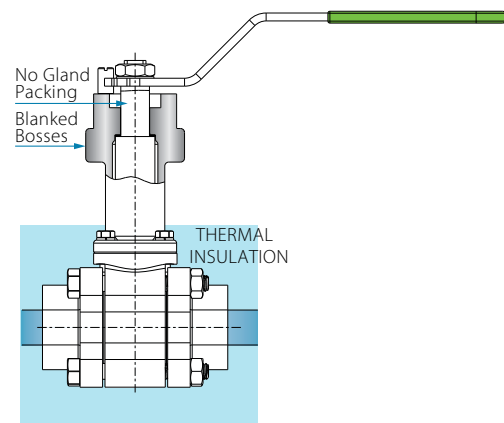
- Valve stem maintenance needs to be programmed
- A combination of high temperature and high cycle conditions
- Valve is in low temperature applications (down to -70 °C / -57 °F)

Caution!: MCU is not to be used with toxic media



Extended Bonnet (EXT)

- When valve and pipe lines need to be insulated
- When valve operation must be elevated from extreme temperature areas
- When direct mounting of actuator to a valve is not suitable

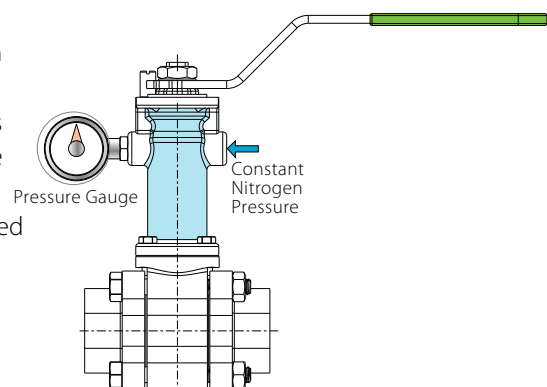


Pressure Box Sealing

A special F.E. bonnet was designed for a fire safe, high cycle operation within a highly aggressive and explosive application. The chamber between the two seals was pressurized with inert gas, which eliminates the presence of oxygen inside the FE bonnet and the risk of explosive conditions.

Constant pressure of inert gas, 1 bar above the line pressure, eliminated any possible stem leak of the aggressive media. A pressure gauge connected to one of the FE tapped holes detect any pressure loss which correlates to the valve stem packing condition.

Caution!: Pressure within the bonnet must not exceed 50 bar!



Ordering code system

Fugitive Emission Bonnet (FE)

- **870763XX9** HermetiX™ Habonim patented stem packing
- **870763XX9-AC** Virgin PTFE Chevron packing
- **870763XX9-N** Control application
- **870763XX9-HC** High cycle
- **870763XX9-KG** Thermal flow
- **870763XX9-AI** TFM thrust, Impregnated graphite packing

Media Containment Unit (MCU)

- **870764XX9** (Suffix adder as per the above 763 F.E. bonnet)
-

Extended Bonnet (EXT)

- **870769XX9** (No suffix required)

Reduced port Valve size	FE size (XX)
DN15 & DN20	mm
1/2" & 3/4"	inch
DN25 & DN32	mm
1" & 1 1/4"	inch
DN40 & DN50	mm
1 1/2" & 2"	inch
DN65	mm
2 1/2"	inch
DN80 & DN100	mm
3" & 4"	inch
DN150 & DN200	mm
6" & 8"	inch

Valve accessories

Locking device

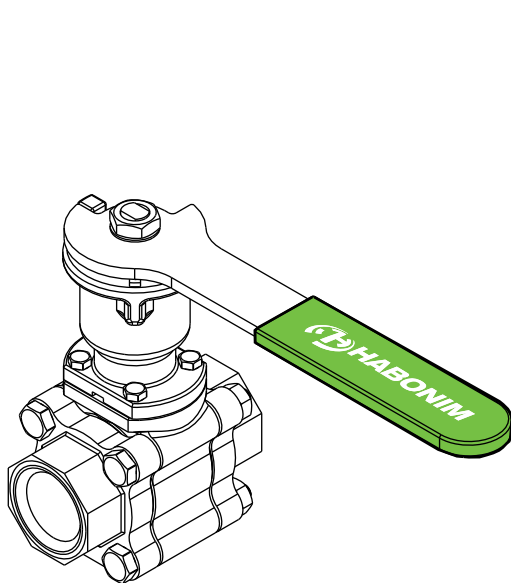
Fugitive Emission (FE)

Spring Return Handle (SRH)

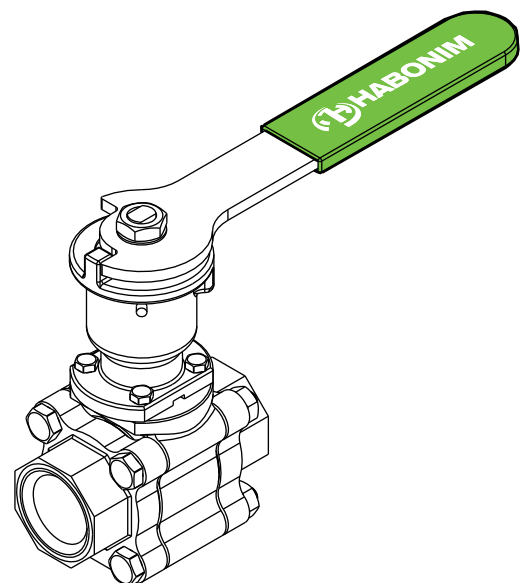
Spring Return Handle 'SRH'

Technical Summary

Size range	½" - 1¼" (DN15 - DN32) Standard port, ½" - 1" (DN15-DN25) Full Bore
Features	Provides dependable automatic closing or opening of manual valves
Services	Water, gas, steam, chemicals, solvents
Applications	Sampling, by-pass, steam letdown, draining, pressure relief
Stroke End Output Torque	11 Nm (97 in-lb)
Materials	Stainless Steel
Connection	Direct mount on top of Habonim valve ISO 5211 pad
Safety Features	Tamper proof spring loaded unit for direct assembly to valve
Other Features	Fail to close, fail to open, optional locking device, compact size, leak detection & drain holes, rugged construction



Fail Close Assembly



Fail Open Assembly



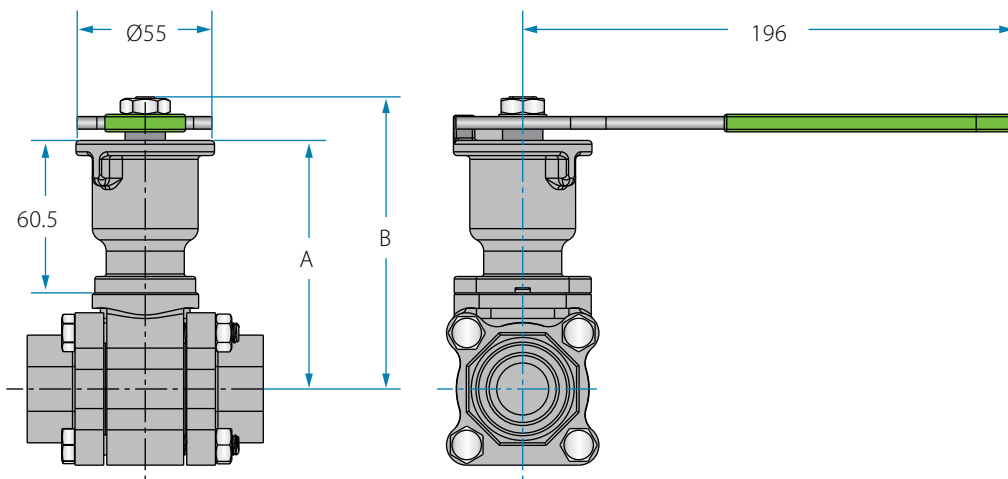
Valve dimensions

Three Piece Valve Assembly

In-Line Assembly: The SRH can be fitted on valves in line without shutting down the system or removing the valve from the line.

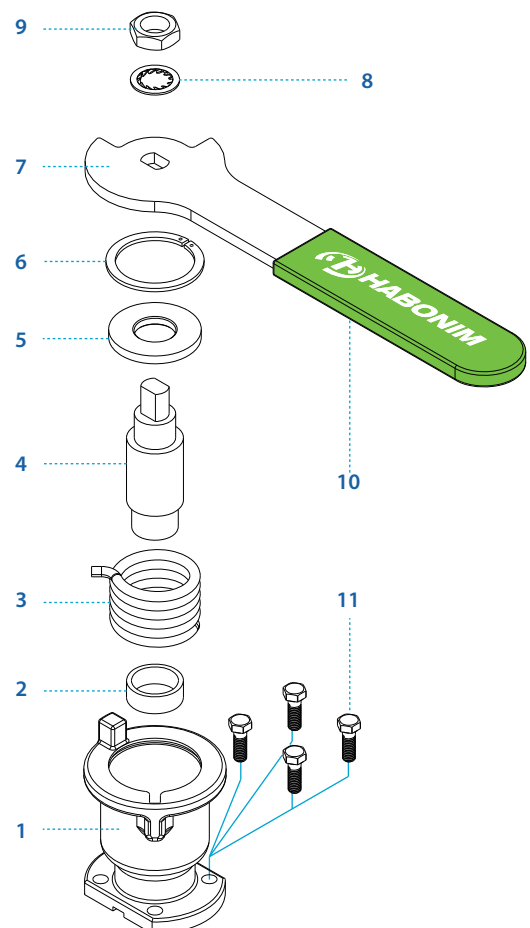
CAUTION! While operating the spring loaded device, hold lever firmly and release gently. Slamming the unit might cause human injuries or handle deformation.

Valve size		A	B
DN15	mm	89.50	106.80
1/2"	inch	3.52	4.20
DN20	mm	91.90	109.20
3/4"	inch	3.62	4.30
DN25	mm	98.70	116.00
1"	inch	3.89	4.57
DN32	mm	103.20	120.50
1 1/4"	inch	4.06	4.74



Components & materials

Item	Description	Material specification	Qty.
1	Body housing	Stainless St. ASTM A351 CF8M	1
2	Bottom bearing	PTFE	1
3	Spring	Spring Steel ASTM A401	1
4	Stem	Stainless Steel 17-4 PH	1
5	Top bearing	BRASS ASTM B121	1
6	Locking clip	A167 304	1
7	Handle	Stainless Steel AISI 430	1
8	Serrated washer	A240 410	1
9	Handle nut	Stainless Steel 316 ASTM A194	1
10	Handle sleeve	PVC	1
11	Housing screws	Stainless Steel A2-70 ISO 4014	4





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