



SEMPPELL RAISTEAM FEED WATER HEATER ISOLATION SYSTEM

Valve for use in power generation plants and industrial applications



FEATURES

- These valves are designed to bypass high pressure feed water around a group of heaters in the event of high-water level in the shell caused by a defective tube, weld or drain system.
- The time available to give protection to a turbine in modern feed systems is short but these valves can operate in approximately 5 seconds in a 300 mm bore pipe system with the minimum of hydraulic shock.
- Protection is achieved in the system by installing fast closing tee and changeover valves in the pipework around a heater or group of heaters.
- These valves are equally applicable in new or established stations.
- The motive power employed is the feedwater pressure and the system is designed to 'fail safe' in that the heaters will be bypassed if either electric or pneumatic supplies fail.

GENERAL APPLICATION

The Raisteam feed water heater isolation and bypass systems are designed to control the flow of boiler feed water, providing isolation and bypass function in the event of feed water heater tube failure. Variants utilizing medium operated systems, motor operated function are available in various configurations.

TECHNICAL DATA

Sizes: NPS 6 -30
(DN 150 - 750)
Design: ASME B16.34, EN 12516
Pressure class: 900 to 2500

SEMPELL RAISTEAM FEED WATER HEATER ISOLATION SYSTEM

OPERATION - MEDIUM OPERATED VALVES

This system is designed to be 'FAIL SAFE'. Failure of the controlling electric or pneumatic supplies will cause the main changeover and outlet valves to close and so isolate the feed side of the feed heater or heater bank. Float switches on feed water heaters are intended to have contacts normally made and to break with rising water level. Relays and solenoid are normally energized and are to be continuously rated.

Assuming the unit to be in normal operation the inlet changeover valve will be in the open position with the bypass line isolated. The out of balance forces acting on the disc caused by a combination of the differential area between the bottom and top of the disc and the pressure drop across the heater bank, will hold it in this position.

The throttle valve is used to control the speed of operation of the inlet and outlet valve and remains in normally open position.

Rising water level in a heater will cause the float switch contacts to break, thereby opening the motor operated pilot valve which remains in normally close position.

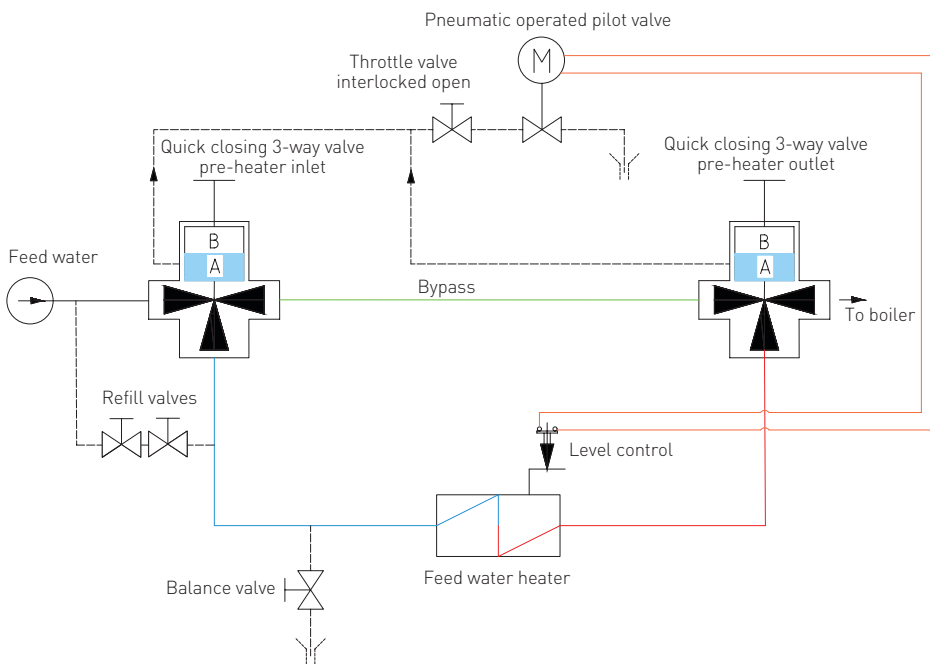
When the pilot valve opens, water is exhausted from the lower chamber (A) of the operating cylinder of both the changeover valve and the outlet valve at a far greater rate than it can enter through the inlet.

Feed water passes through the opening in bonnet into chamber (B) and the resulting pressure difference on the pistons causes both valves to isolate the heater or heater bank. During the above closing process, the balance valve has also opened and thereby reduce the pressure in the heater and feed piping to ensure that both valves are held firmly closed under all conditions.

Any increase in pressure from whatever source in the isolated section of feed water piping between the two main valves will be automatically reduced by the balance valve. At the point of main valve closure the motor operated pilot valves will also close to prevent unnecessary loss of feed water to drain.

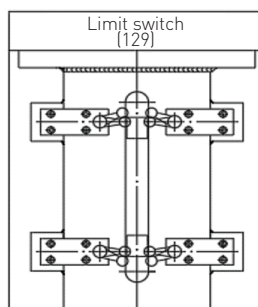
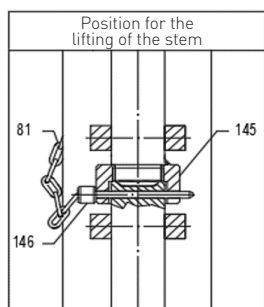
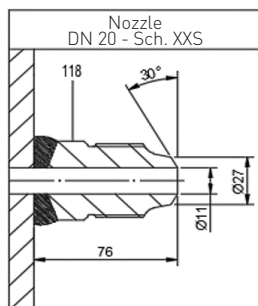
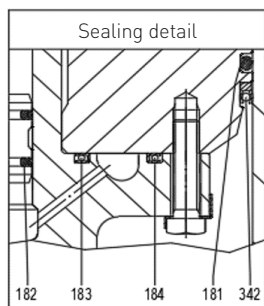
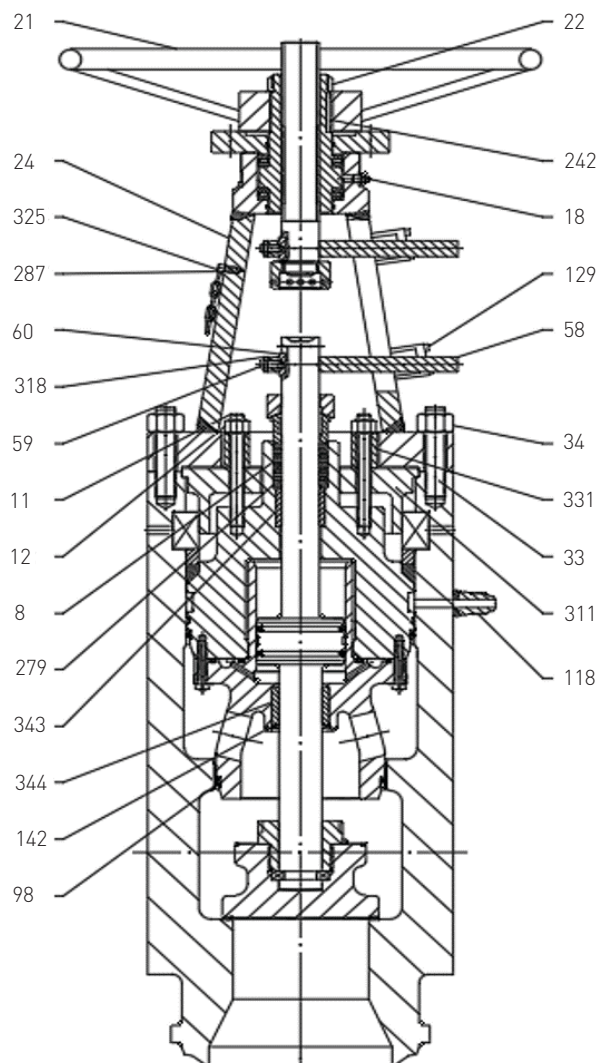
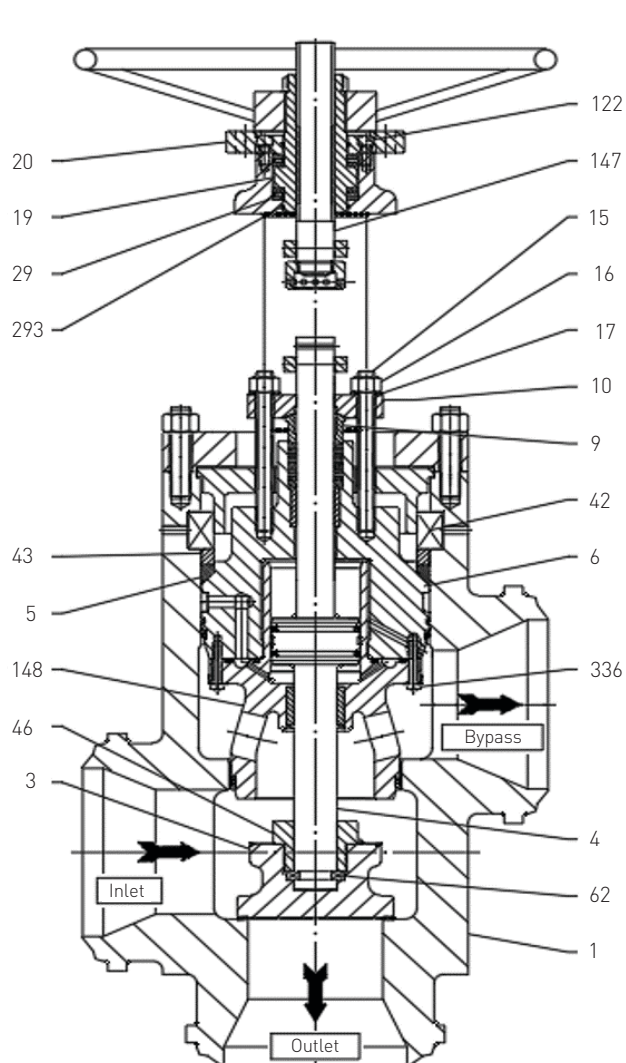
Sempell Raisteam medium operated valves are available in a wide variety of sizes and pressure classes and can be supplied together with the ancillary equipment to suit individual customers requirements.

TYPICAL FEED WATER HEATER ISOLATION SYSTEM Medium operated valves



SEMPELL RAISTEAM FEED WATER HEATER ISOLATION SYSTEM

QUICK CLOSING INLET VALVE LOW TEMPERATURE



SEMPELL RAISTEAM FEED WATER HEATER ISOLATION SYSTEM

MATERIAL SPECIFICATIONS

Part name	11	17
	-20-+425°C A105 -	38-+450°C 1.6368 15NiCuMoNb5
1 Body	A105	1.6368
3 Disc	A105 / 13% Cr	1.6368 / 13% Cr
4 Stem	A182 F6a Cl2	1.4922
5 Body/Bonnet Gasket	Graphite / 316	Graphite / 316
6 Bonnet	A105	1.6368
8 Stem Packing	Graphite	Graphite
9 Gland	A182 F6a	1.4006
10 Gland Flange	A514 Gr. A	1.8928
11 Bolts	A193 B7	1.7709
12 Nuts	A194 2H	1.1191
15 Gland Bolts	A193 B7	1.7709
16 Gland Nuts	A194 2H	1.1191
17 Washer	Zinc Steel	Zinc Steel
18 Lubricator	Steel	Steel
19 Yoke Screw	B148 Gr. A	B148 Gr. A
20 Thrust Bearing Flange	A105	1.0352
21 Handwheel	Steel	Steel
22 Handwheel Nut	A105	1.0352
24 Yoke	A105	1.0352
29 Bearing	Steel	Steel
33 Yoke Bolts	A193 B7	1.7709
34 Yoke Nuts	A194 2H	1.1191
42 Segment Ring	A182 F22	1.4903
43 Ring	A182 F22	1.7383
46 Disc Nut	A105	1.0460
58 Position Indicator	A516 Gr70	1.0352
59 Security Dowel	Steel	Steel
60 Stem Key	AISI 4140	St60-2
62 Stem Split Ring	A182 F6a	1.4006
81 Chain	Steel	Steel
98 O-Ring	Rulon K/17_7	Rulon K/17_7
118 Nozzle for Overpressure	A105	1.6368
122 Yokenut Screw	Steel	Steel
129 Limit Switch	Steel	Steel
142 Seger	Stainless Steel	Stainless Steel
145 Stem Joint	A182 F6a	1.4006
146 Pin	A182 F6a	1.4006
147 Upper Stem	A182 F6a Cl2	1.4922
148 Cylinder	A182 F6a	1.4006
181 O-Ring Body/Bonnet	FFKM 6375	FFKM 6375
182 O-Ring Stem/Cylinder	Kalrez® + Ekonol®	Kalrez® + Ekonol®
183 Spring Enerseal	Rulon K/17_7	Rulon K/17_7
184 Spring Enerseal	Rulon K/17_7	Rulon K/17_7
242 Yokenut Key	AISI 4140	St60-2
279 Ground Ring	A182 F6a	1.4006
287 Washer	Stainless Steel	Stainless Steel
293 O-Ring	Viton™ A - 70Sh	Viton™ A - 70Sh
311 Safety Ring	A105	1.0352
318 Nut	A194 2H	Steel
325 Screw	Stainless Steel	Stainless Steel
331 Spacer	Steel	Steel
336 Screw	Stainless Steel	Stainless Steel
342 Spring Enerseal	Rulon K/17_7	Rulon K/17_7
343 Lower Sliding Bearings	B148 Gr. A	B148 Gr. A
344 Upper Sliding Bearings	B148 Gr. A	B148 Gr. A

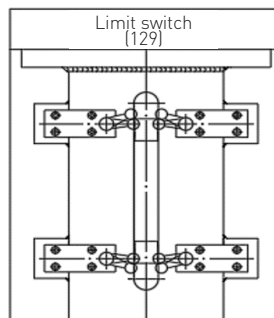
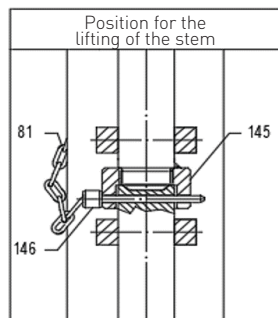
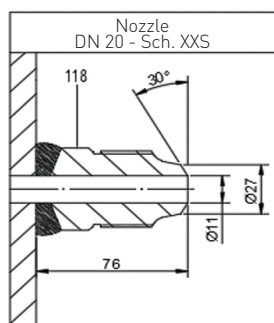
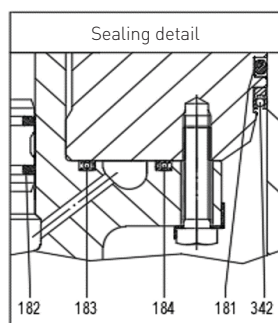
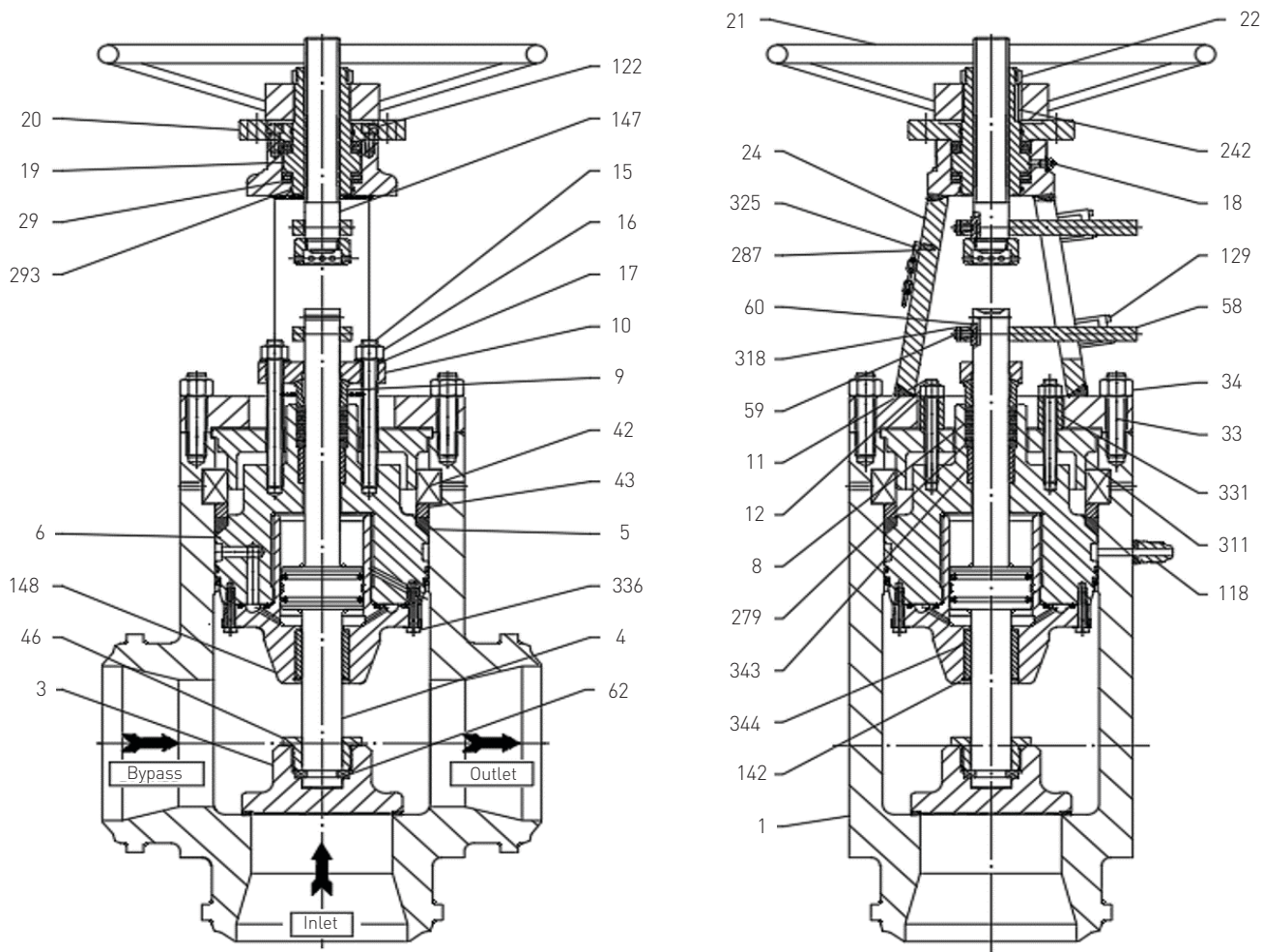
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SEMPELL RAISTEAM FEED WATER HEATER ISOLATION SYSTEM

QUICK CLOSING OUTLET VALVE LOW TEMPERATURE



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3 Disc	A105 / 13% Cr	1.6368 / 13% Cr
4 Stem	A182 F6a CL2	1.4922
5 Body/Bonnet Gasket	Graphite / 316	Graphite / 316
6 Bonnet	A105	1.6368
8 Stem Packing	Graphite	Graphite
9 Gland	A182 F6a	1.4006
10 Gland Flange	A514 Gr. A	1.8928
11 Bolts	A193 B7	1.7709
12 Nuts	A194 2H	1.1191
15 Gland Bolts	A193 B7	1.7709
16 Gland Nuts	A194 2H	1.1191
17 Washer	Zinc Steel	Zinc Steel
18 Lubricator	Steel	Steel
19 Yoke Screw	B148 Gr. A	B148 Gr. A
20 Thrust Bearing Flange	A105	1.0352
21 Handwheel	Steel	Steel
22 Handwheel Nut	A105	1.0352
24 Yoke	A105	1.0352
29 Bearing	Steel	Steel
33 Yoke Bolts	A193 B7	1.7709
34 Yoke Nuts	A194 2H	1.1191
42 Segment Ring	A182 F22	1.4903
43 Ring	A182 F22	1.7383
46 Disc Nut	A105	1.0460
58 Position Indicator	A516 Gr70	1.0352
59 Security Dowel	Steel	Steel
60 Stem Key	AISI 4140	St60-2
62 Stem Split Ring	A182 F6a	1.4006
81 Chain	Steel	Steel
118 Nozzle for Overpressure	A105	1.6368
122 Yokenut Screw	Steel	Steel
129 Limit Switch	Steel	Steel
142 Seger	Stainless Steel	Stainless Steel
145 Stem Joint	A182 F6a	1.4006
146 Pin	A182 F6a	1.4006
147 Upper Stem	A182 F6a CL2	1.4922
148 Cylinder	A182 F6a	1.4006
181 O-Ring Body/Bonnet	FFKM 6375	FFKM 6375
182 O-Ring Stem/Cylinder	Kalrez® + Ekonol®	Kalrez® + Ekonol®
183 Spring Enerseal	Rulon K/17_7	Rulon K/17_7
184 Spring Enerseal	Rulon K/17_7	Rulon K/17_7
242 Yokenut Key	AISI 4140	St60-2
279 Ground Ring	A182 F6a	1.4006
287 Washer	Stainless Steel	Stainless Steel
293 O-Ring	Viton™ A - 70Sh	Viton™ A - 70Sh
311 Safety Ring	A105	1.0352
318 Nut	A194 2H	Steel
325 Screw	Stainless Steel	Stainless Steel
331 Spacer	Steel	Steel
336 Screw	Stainless Steel	Stainless Steel
342 Spring Enerseal	Rulon K/17_7	Rulon K/17_7
343 Lower Sliding Bearings	B148 Gr. A	B148 Gr. A
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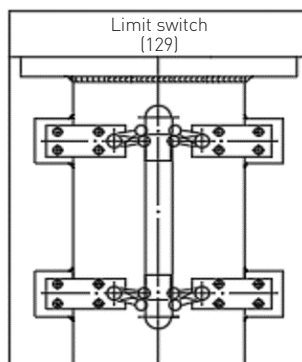
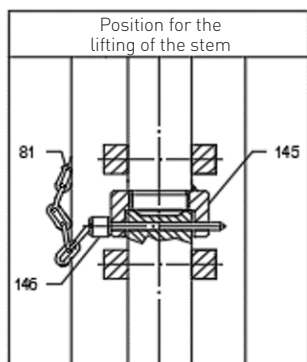
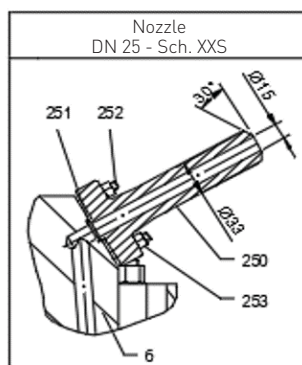
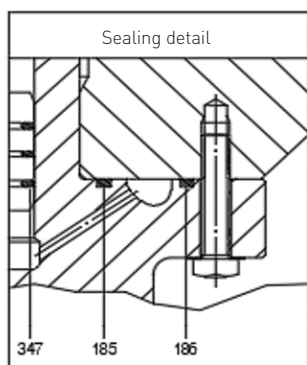
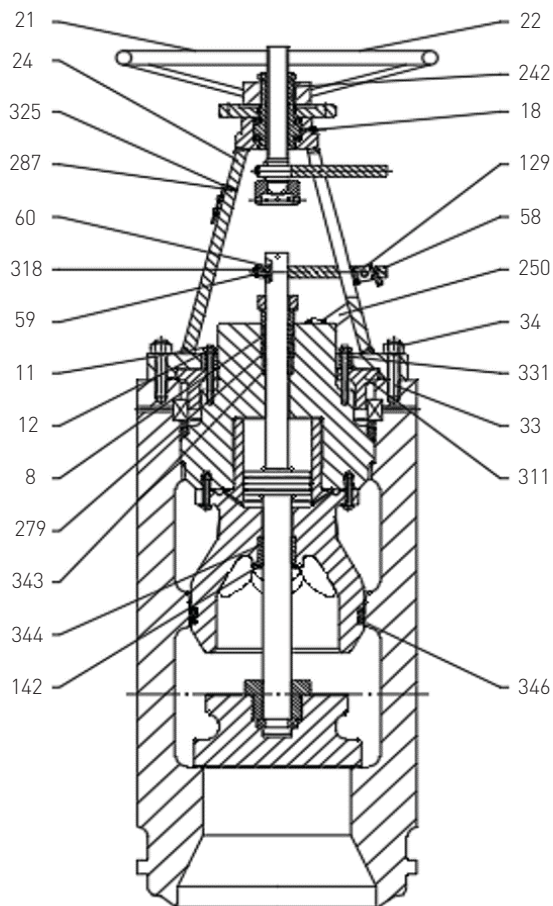
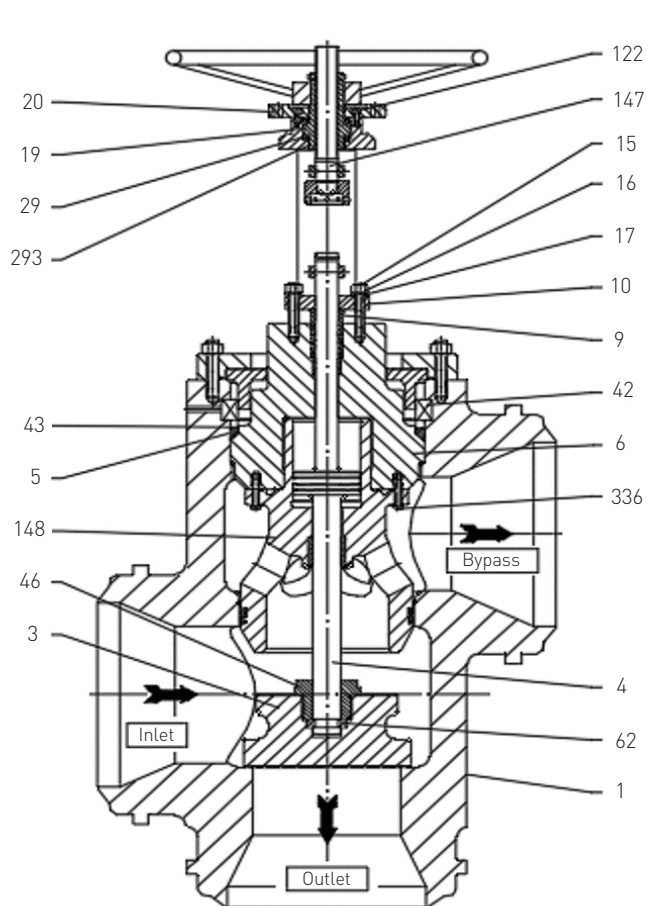
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QUICK CLOSING INLET VALVE HIGH TEMPERATURE



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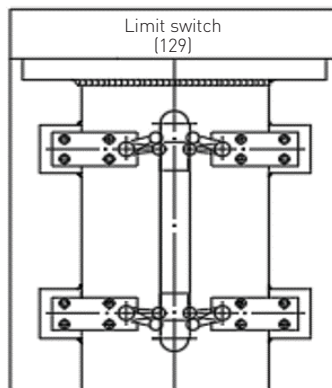
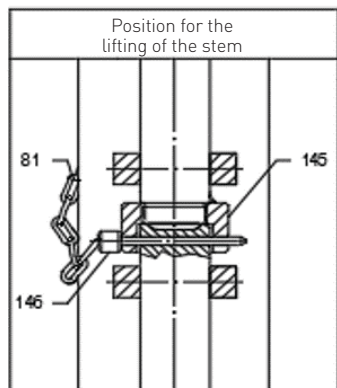
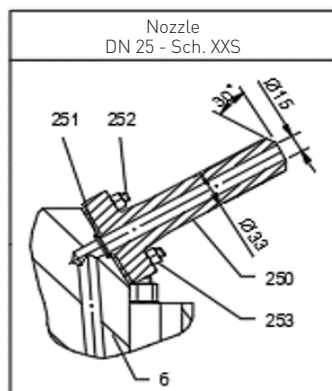
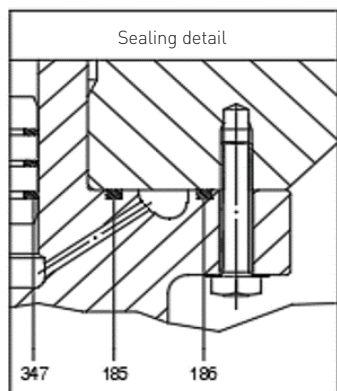
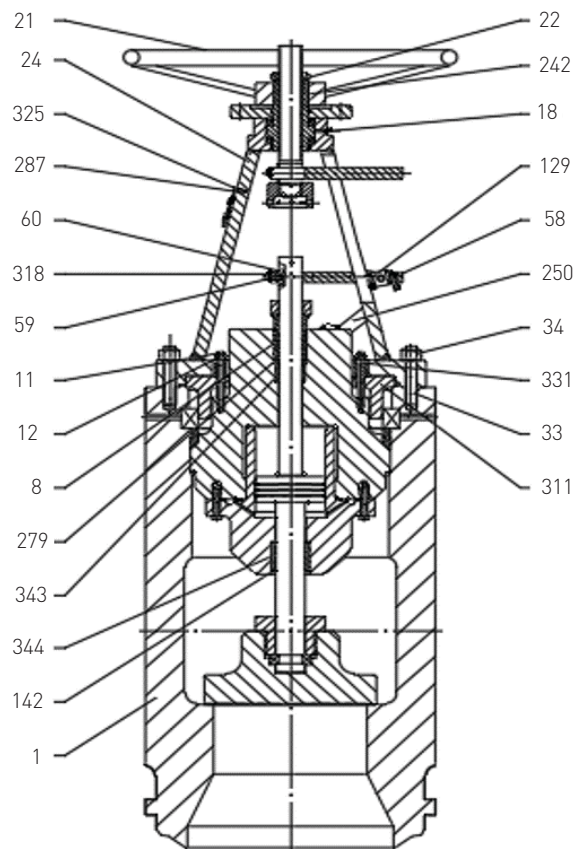
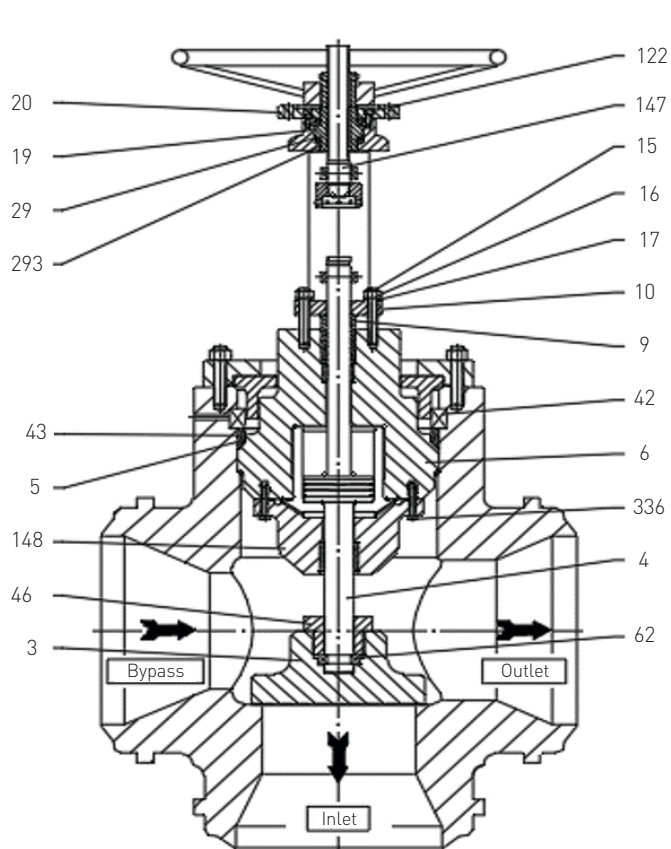
MATERIAL SPECIFICATIONS

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5 Body/Bonnet Gasket	Graphite / 316	Graphite / 316
6 Bonnet	A105	1.6368
8 Stem Packing	Graphite	Graphite
9 Gland	A182 F6a	1.4006
10 Gland Flange	A514 Gr. A	1.8928
11 Bolts	A193 B7	1.7709
12 Nuts	A194 2H	1.1191
15 Gland Bolts	A193 B7	1.7709
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18 Lubricator	Steel	Steel
19 Yoke Screw	B148 Gr. A	B148 Gr. A
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42 Segment Ring	A182 F22	1.4903
43 Ring	A182 F22	1.7383
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58 Position Indicator	A516 Gr70	1.0352
59 Security Dowel	Steel	Steel
60 Stem Key	AISI 4140	St60-2
62 Stem Split Ring	A182 F6a	1.4006
81 Chain	Steel	Steel
122 Yokenut Screw	Steel	Steel
129 Limit Switch	Steel	Steel
142 Seger	Stainless Steel	Stainless Steel
145 Stem Joint	A182 F6a	1.4006
146 Pin	A182 F6a	1.4006
147 Upper Stem	A182 F6a Cl2	1.4922
148 Cylinder	A182 F6a	1.4006
185 Gasket	Graphite	Graphite
186 Gasket	Graphite	Graphite
242 Yokenut Key	AISI 4140	St60-2
250 Flange	A105	1.6368
251 Gasket	Stainless Steel	Stainless Steel
252 Bolts	A193 B7	1.7709
253 Nuts	A194 2H	1.1191
279 Ground Ring	A182 F6a	1.4006
287 Washer	Stainless Steel	Stainless Steel
293 O-Ring	Viton™ A - 70Sh	Viton™ A - 70Sh
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318 Nut	A194 2H	Steel
325 Screw	Stainless Steel	Stainless Steel
331 Spacer	Steel	Steel
336 Screw	Stainless Steel	Stainless Steel
343 Lower Sliding Bearings	B148 Gr. A	B148 Gr. A
344 Upper Sliding Bearings	B148 Gr. A	B148 Gr. A
346 Piston Ring	GGL-NiCuCr 15 6 2	GGL-NiCuCr 15 6 2
347 Piston Ring	GGL-NiCuCr 15 6 2	GGL-NiCuCr 15 6 2

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SEMPELL RAISTEAM FEED WATER HEATER ISOLATION SYSTEM

QUICK CLOSING OUTLET VALVE HIGH TEMPERATURE



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81 Chain	Steel	Steel
122 Yokenut Screw	Steel	Steel
129 Limit Switch	Steel	Steel
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145 Stem Joint	A182 F6a	1.4006
146 Pin	A182 F6a	1.4006
147 Upper Stem	A182 F6a Cl2	1.4922
148 Cylinder	A182 F6a	1.4006
185 Gasket	Graphite	Graphite
186 Gasket	Graphite	Graphite
242 Yokenut Key	AISI 4140	St60-2
250 Flange	A105	1.6368
251 Gasket	Stainless Steel	Stainless Steel
252 Bolts	A193 B7	1.7709
253 Nuts	A194 2H	1.1191
279 Ground Ring	A182 F6a	1.4006
287 Washer	Stainless Steel	Stainless Steel
293 O-Ring	Viton™ A - 70Sh	Viton™ A - 70Sh
311 Safety Ring	A105	1.0352
318 Nut	A194 2H	Steel
325 Screw	Stainless Steel	Stainless Steel
331 Spacer	Steel	Steel
336 Screw	Stainless Steel	Stainless Steel
343 Lower Sliding Bearings	B148 Gr. A	B148 Gr. A
344 Upper Sliding Bearings	B148 Gr. A	B148 Gr. A
347 Piston Ring	GGL-NiCuCr 15 6 2	GGL-NiCuCr 15 6 2
347 Piston Ring	GGL-NiCuCr 15 6 2	GGL-NiCuCr 15 6 2

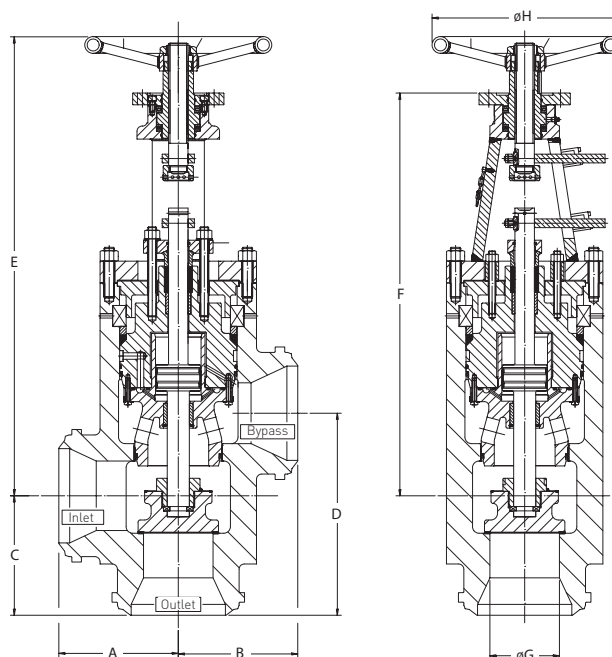
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SEMPELL RAISTEAM FEED WATER HEATER ISOLATION SYSTEM

Quick Closing Inlet Medium Operated Valve: Sizes NPS 6 - 30 (DN 150 - 750)

DIMENSIONS (Metric)

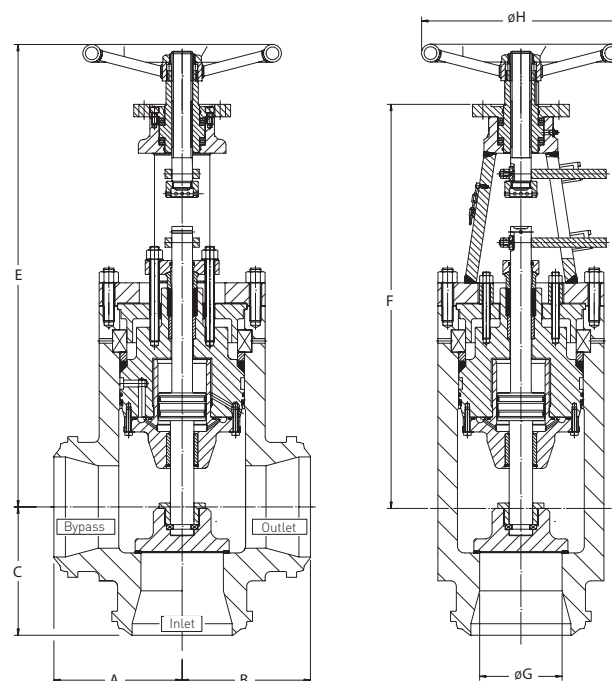
Size NPS	A	B	C	D	E	F	ØG	ØH
6	185	185	185	295	705	646	90	300
10	275	275	275	465	1005	927	160	750
12	325	325	325	645	1055	976	200	750
14	350	350	350	645	1250	1165	240	750
16	390	390	390	705	1370	1238	280	750
18	425	425	425	790	1900	1321	325	750
26	540	540	540	967	1635	1538	380	850
28	600	600	600	1100	2110	1870	450	850
30	670	670	650	1195	2030	1900	450	850



Quick Closing Outlet Medium Operated Valve: Sizes NPS 6 - 30 (DN 150 - 750)

DIMENSIONS (Metric)

Size NPS	A	B	C	E	F	ØG	ØH
6	185	185	185	675	615	90	300
10	275	275	275	955	877	160	750
12	325	325	325	1055	976	200	750
14	350	350	350	1180	1045	240	750
16	390	390	390	1205	1070	280	750
18	425	425	425	1305	1152	325	750
26	540	540	540	1440	1343	380	850
28	600	600	600	1850	1610	450	850
30	670	670	650	1940	1810	450	850



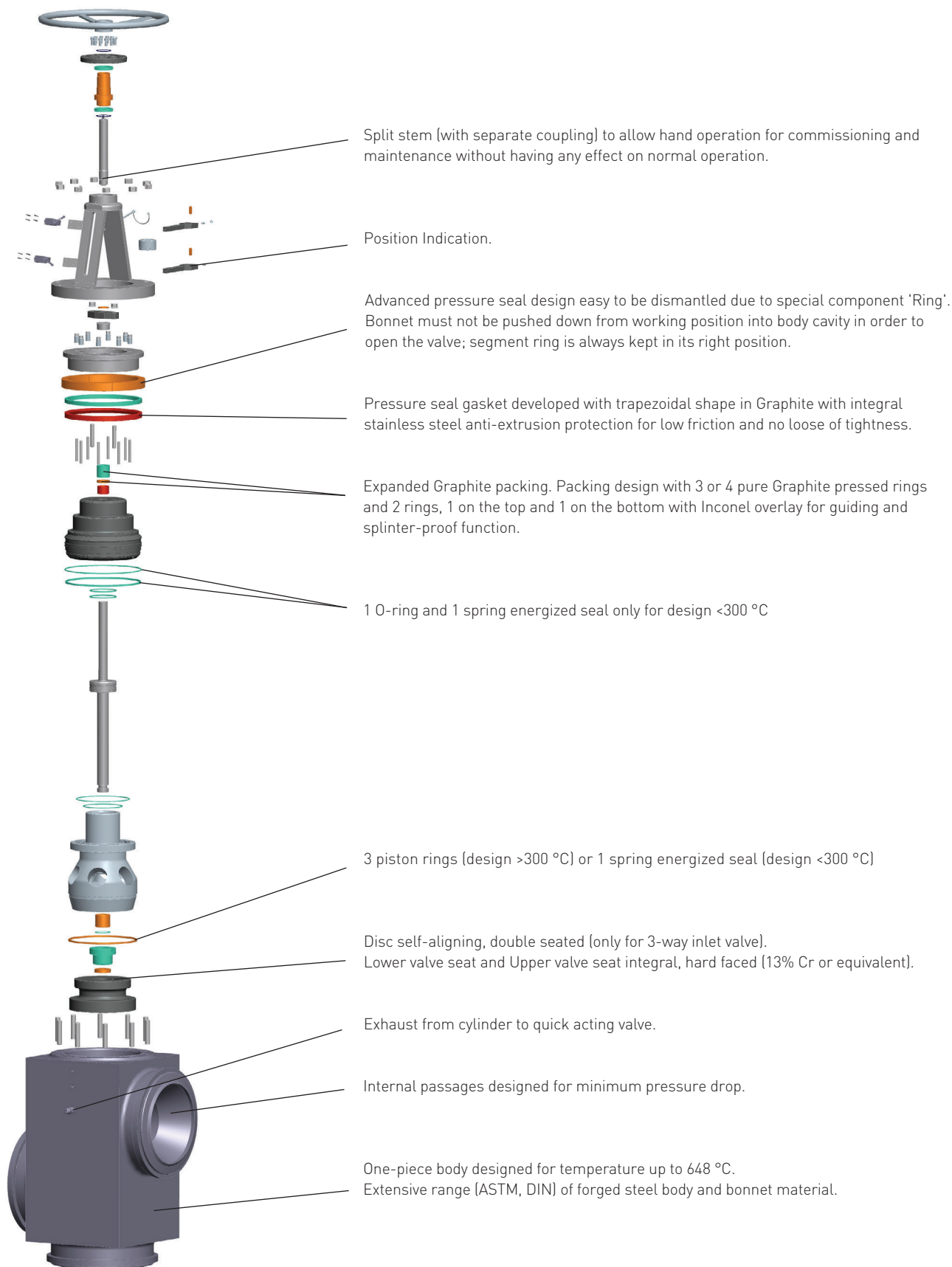
NOTES

1. Other sizes available on request. Please consult supplier.
2. Valves can be supplied together with the ancillary equipment to suit individual customer requirement.

SEPELL RAISTEAM FEED WATER HEATER

ISOLATION SYSTEM

QUICK CLOSING MEDIUM OPERATED VALVE LOW TEMPERATURE (<300 °C) AND HIGH TEMPERATURE (>300 °C)



SEMPELL RAISTEAM FEED WATER HEATER ISOLATION SYSTEM

OPERATION - MOTOR OPERATED VALVES

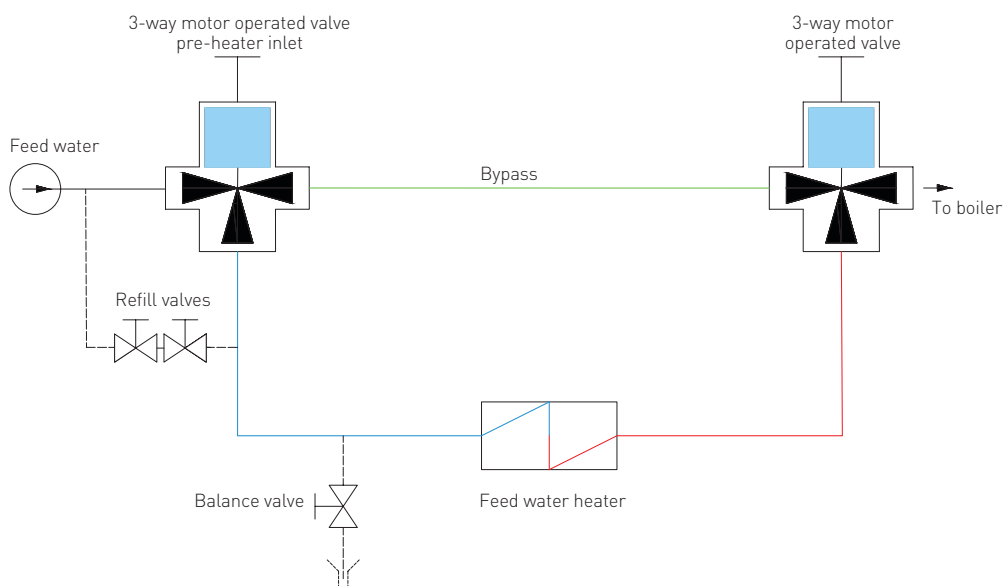
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Assuming the unit to be in normal operation, the inlet changeover valve will be in the open position with the bypass line isolated.

Unlike the medium operated valves, modifications and operation of the motor operated valves may be carried out by the end user as per the control system of the plant and plant requirements.

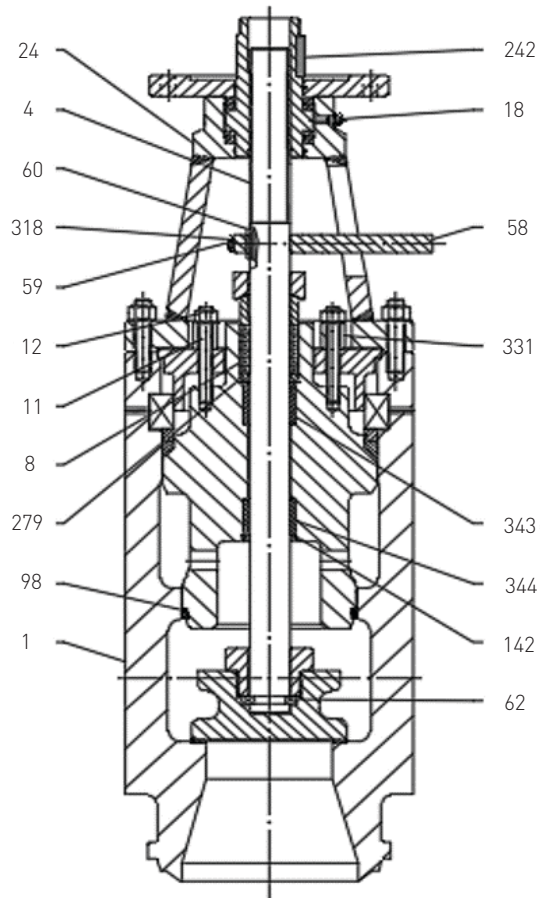
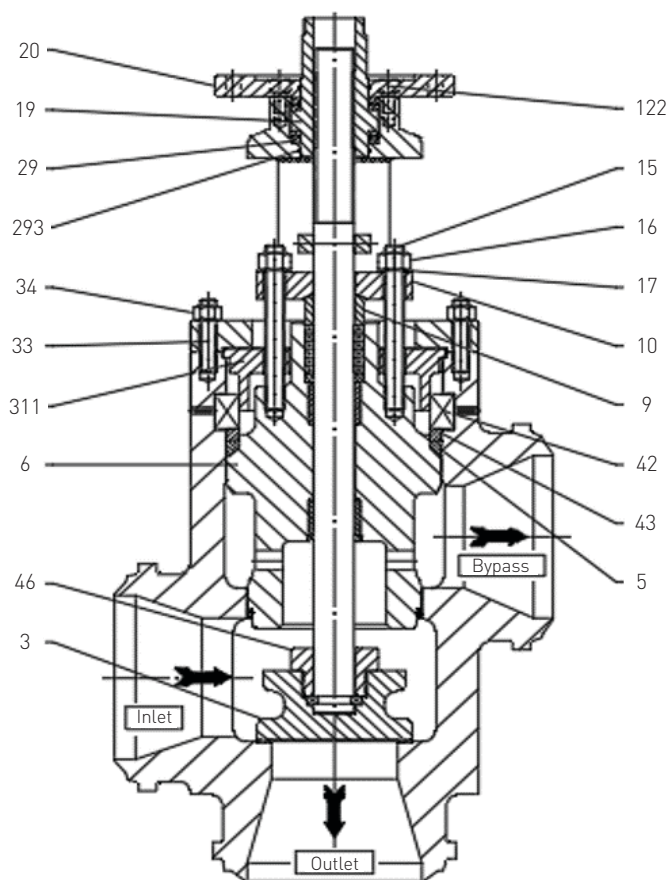
TYPICAL FEED WATER HEATER ISOLATION SYSTEM

Motor operated valves



SEPELL RAISTEAM FEED WATER HEATER ISOLATION SYSTEM

3-WAY INLET VALVE LOW TEMPERATURE



SEMPELL RAISTEAM FEED WATER HEATER ISOLATION SYSTEM

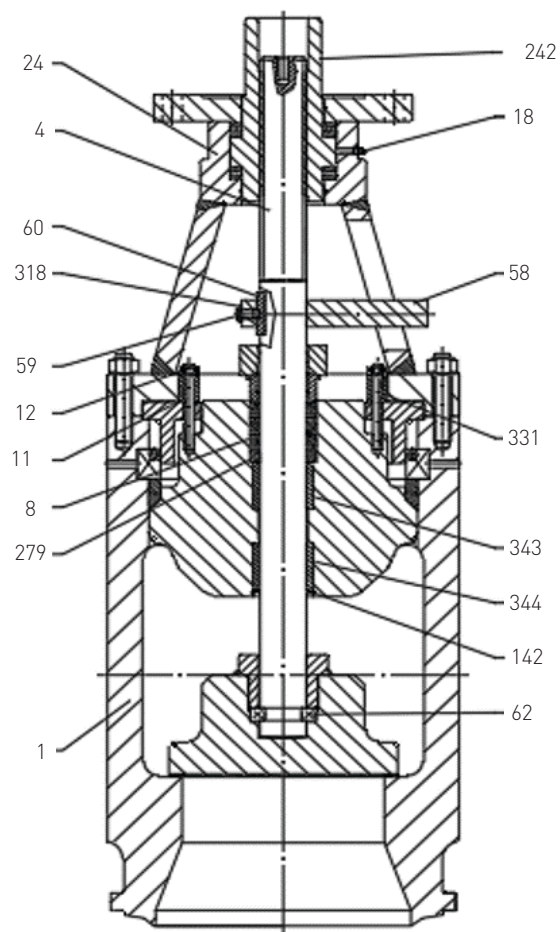
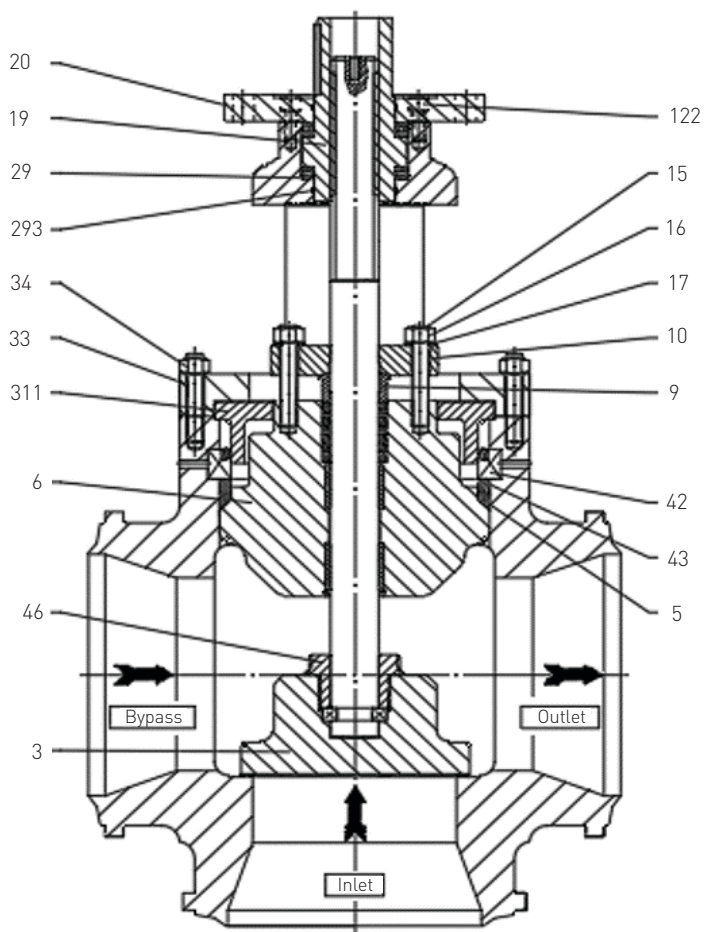
MATERIAL SPECIFICATIONS

Part name	11	17
	-20--+425°C A105 -	38--+450°C 1.6368 15NiCuMoNb5
1 Body	A105	1.6368
3 Disc	A105 / 13% Cr	1.6368 / 13% Cr
4 Stem	A182 F6a Cl2	1.4922
5 Body/Bonnet Gasket	Graphite / 316	Graphite / 316
6 Bonnet	A105	1.6368
8 Stem Packing	Graphite	Graphite
9 Gland	A182 F6a	1.4006
10 Gland Flange	A514 Gr. A	1.8928
11 Bolts	A193 B7	1.7709
12 Nuts	A194 2H	1.1191
15 Gland Bolts	A193 B7	1.7709
16 Gland Nuts	A194 2H	1.1191
17 Washer	Zinc Steel	Zinc Steel
18 Lubricator	Steel	Steel
19 Yoke Screw	B148 Gr. A	B148 Gr. A
20 Thrust Bearing Flange	A105	1.0352
24 Yoke	A105	1.0352
29 Bearing	Steel	Steel
33 Yoke Bolts	A193 B7	1.7709
34 Yoke Nuts	A194 2H	1.1191
42 Segment Ring	A182 F22	1.4903
43 Ring	A182 F22	1.7383
46 Disc Nut	A105	1.0460
58 Position Indicator	A516 Gr70	1.0352
59 Security Dowel	Steel	Steel
60 Stem Key	AISI 4140	St60-2
62 Stem Split Ring	A182 F6a	1.4006
98 O-Ring	Rulon K/17_7	Rulon K/17_7
122 Yokenut Screw	Steel	Steel
142 Seger	Stainless Steel	Stainless Steel
242 Yokenut Key	AISI 4140	St60-2
279 Ground Ring	A182 F6a	1.4006
293 O-Ring	Viton™ A - 70Sh	Viton™ A - 70Sh
311 Safety Ring	A105	1.0352
318 Nut	A194 2H	Steel
331 Spacer	Steel	Steel
343 Lower Sliding Bearings	B148 Gr. A	B148 Gr. A
344 Upper Sliding Bearings	B148 Gr. A	B148 Gr. A

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SEMPELL RAISTEAM FEED WATER HEATER ISOLATION SYSTEM

3-WAY OUTLET VALVE LOW TEMPERATURE



SEMPELL RAISTEAM FEED WATER HEATER ISOLATION SYSTEM

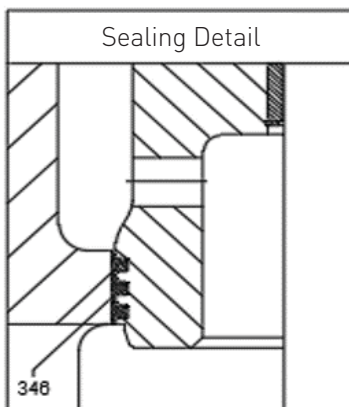
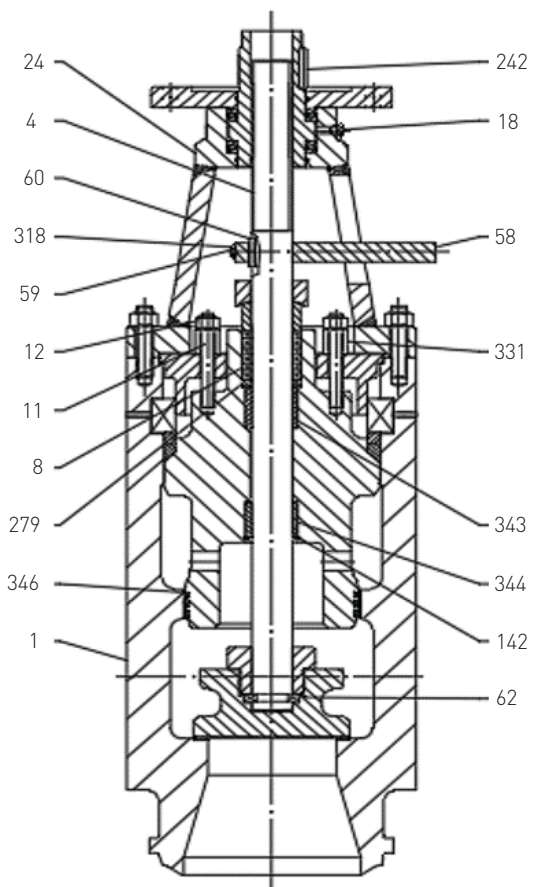
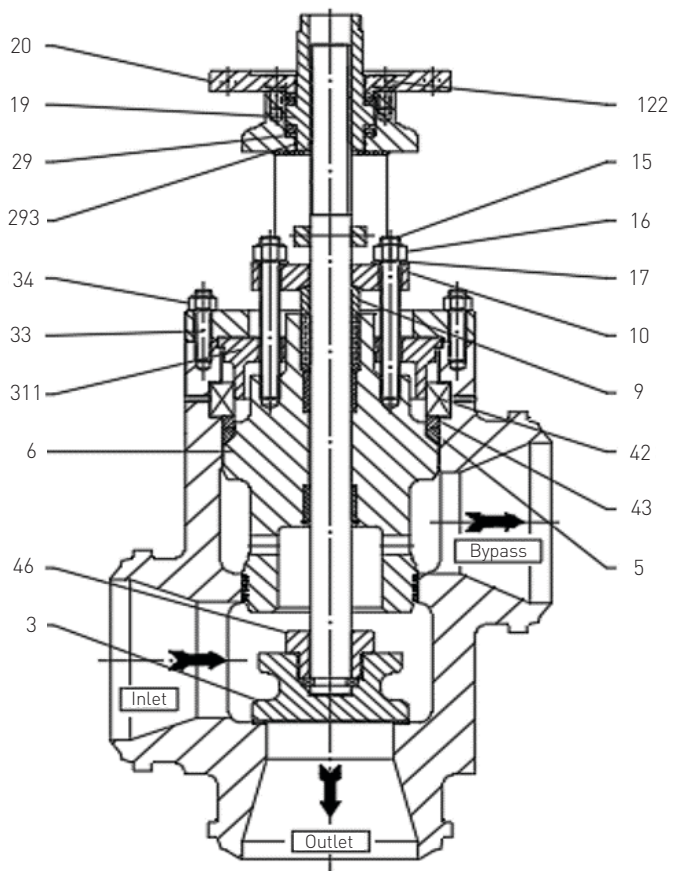
MATERIAL SPECIFICATIONS

Part name	11	17
	-20-+425°C A105 -	38-+450°C 1.6368 15NiCuMoNb5
1 Body	A105	1.6368
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4 Stem	A182 F6a Cl2	1.4922
5 Body/Bonnet Gasket	Graphite / 316	Graphite / 316
6 Bonnet	A105	1.6368
8 Stem Packing	Graphite	Graphite
9 Gland	A182 F6a	1.4006
10 Gland Flange	A514 Gr. A	1.8928
11 Bolts	A193 B7	1.7709
12 Nuts	A194 2H	1.1191
15 Gland Bolts	A193 B7	1.7709
16 Gland Nuts	A194 2H	1.1191
17 Washer	Zinc Steel	Zinc Steel
18 Lubricator	Steel	Steel
19 Yoke Screw	B148 Gr. A	B148 Gr. A
20 Thrust Bearing Flange	A105	1.0352
24 Yoke	A105	1.0352
29 Bearing	Steel	Steel
33 Yoke Bolts	A193 B7	1.7709
34 Yoke Nuts	A194 2H	1.1191
42 Segment Ring	A182 F22	1.4903
43 Ring	A182 F22	1.7383
46 Disc Nut	A105	1.0460
58 Position Indicator	A516 Gr70	1.0352
59 Security Dowel	Steel	Steel
60 Stem Key	AISI 4140	St60-2
62 Stem Split Ring	A182 F6a	1.4006
122 Yokenut Screw	Steel	Steel
142 Seger	Stainless Steel	Stainless Steel
242 Yokenut Key	AISI 4140	St60-2
279 Ground Ring	A182 F6a	1.4006
293 O-Ring	Viton™ A - 70Sh	Viton™ A - 70Sh
311 Safety Ring	A105	1.0352
318 Nut	A194 2H	Steel
331 Spacer	Steel	Steel
343 Lower Sliding Bearings	B148 Gr. A	B148 Gr. A
344 Upper Sliding Bearings	B148 Gr. A	B148 Gr. A

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SEMPELL RAISTEAM FEED WATER HEATER ISOLATION SYSTEM

3-WAY INLET VALVE HIGH TEMPERATURE



SEMPELL RAISTEAM FEED WATER HEATER ISOLATION SYSTEM

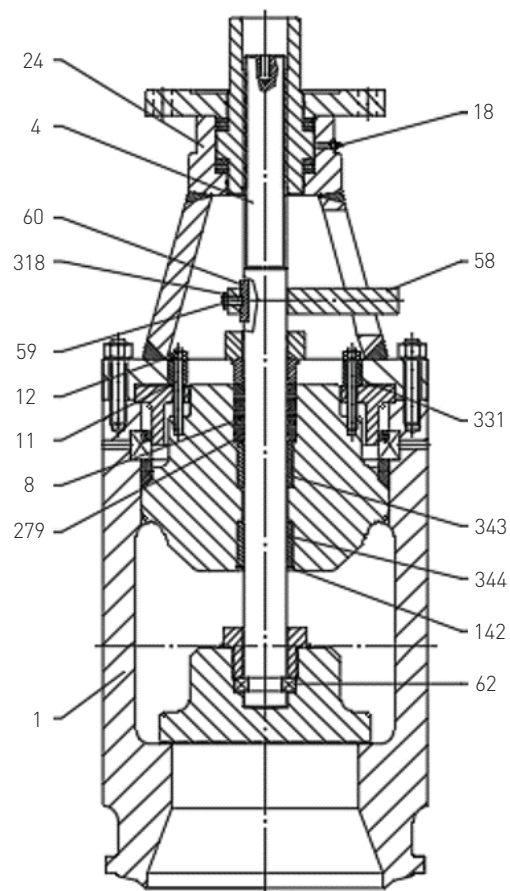
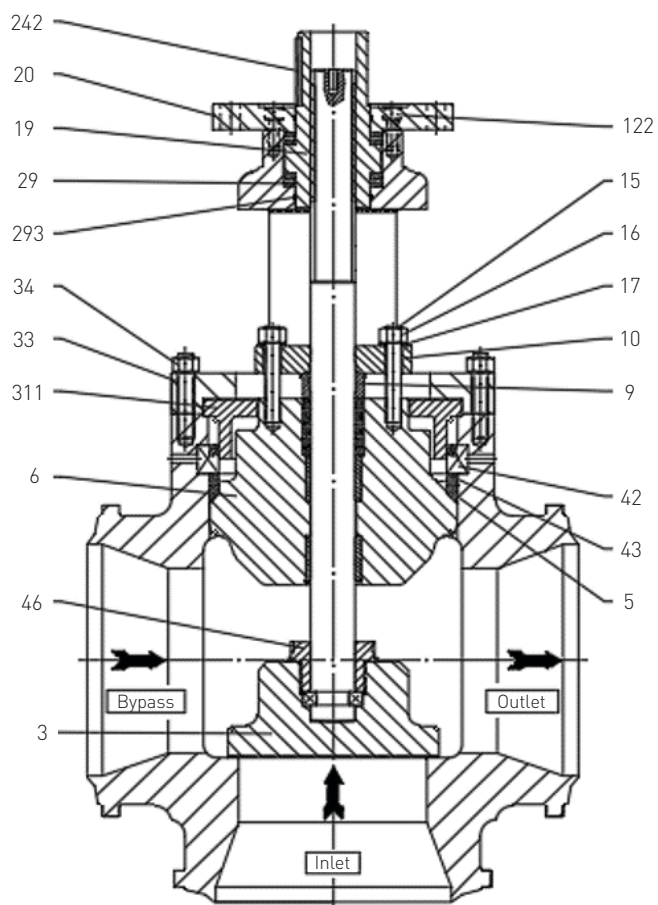
MATERIAL SPECIFICATIONS

Part name	11	17
	-20--+425°C A105 -	38--+450°C 1.6368 15NiCuMoNb5
1 Body	A105	1.6368
3 Disc	A105 / 13% Cr	1.6368 / 13% Cr
4 Stem	A182 F6a Cl2	1.4922
5 Body/Bonnet Gasket	Graphite / 316	Graphite / 316
6 Bonnet	A105	1.6368
8 Stem Packing	Graphite	Graphite
9 Gland	A182 F6a	1.4006
10 Gland Flange	A514 Gr. A	1.8928
11 Bolts	A193 B7	1.7709
12 Nuts	A194 2H	1.1191
15 Gland Bolts	A193 B7	1.7709
16 Gland Nuts	A194 2H	1.1191
17 Washer	Zinc Steel	Zinc Steel
18 Lubricator	Steel	Steel
19 Yoke Screw	B148 Gr. A	B148 Gr. A
20 Thrust Bearing Flange	A105	1.0352
24 Yoke	A105	1.0352
29 Bearing	Steel	Steel
33 Yoke Bolts	A193 B7	1.7709
34 Yoke Nuts	A194 2H	1.1191
42 Segment Ring	A182 F22	1.4903
43 Ring	A182 F22	1.7383
46 Disc Nut	A105	1.0460
58 Position Indicator	A516 Gr70	1.0352
59 Security Dowel	Steel	Steel
60 Stem Key	AISI 4140	St60-2
62 Stem Split Ring	A182 F6a	1.4006
122 Yokenut Screw	Steel	Steel
142 Seger	Stainless Steel	Stainless Steel
242 Yokenut Key	AISI 4140	St60-2
279 Ground Ring	A182 F6a	1.4006
293 O-Ring	Viton™ A - 70Sh	Viton™ A - 70Sh
311 Safety Ring	A105	1.0352
318 Nut	A194 2H	Steel
331 Spacer	Steel	Steel
343 Lower Sliding Bearings	B148 Gr. A	B148 Gr. A
344 Upper Sliding Bearings	B148 Gr. A	B148 Gr. A
346 Piston Ring	GGL-NiCuCr 15 6 2	GGL-NiCuCr 15 6 2

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SEMPELL RAISTEAM FEED WATER HEATER ISOLATION SYSTEM

3-WAY OUTLET VALVE HIGH TEMPERATURE



SEMPELL RAISTEAM FEED WATER HEATER ISOLATION SYSTEM

MATERIAL SPECIFICATIONS

Part name	11	17
	-20--+425°C A105 -	38--+450°C 1.6368 15NiCuMoNb5
1 Body	A105	1.6368
3 Disc	A105 / 13% Cr	1.6368 / 13% Cr
4 Stem	A182 F6a Cl2	1.4922
5 Body/Bonnet Gasket	Graphite / 316	Graphite / 316
6 Bonnet	A105	1.6368
8 Stem Packing	Graphite	Graphite
9 Gland	A182 F6a	1.4006
10 Gland Flange	A514 Gr. A	1.8928
11 Bolts	A193 B7	1.7709
12 Nuts	A194 2H	1.1191
15 Gland Bolts	A193 B7	1.7709
16 Gland Nuts	A194 2H	1.1191
17 Washer	Zinc Steel	Zinc Steel
18 Lubricator	Steel	Steel
19 Yoke Screw	B148 Gr. A	B148 Gr. A
20 Thrust Bearing Flange	A105	1.0352
24 Yoke	A105	1.0352
29 Bearing	Steel	Steel
33 Yoke Bolts	A193 B7	1.7709
34 Yoke Nuts	A194 2H	1.1191
42 Segment Ring	A182 F22	1.4903
43 Ring	A182 F22	1.7383
46 Disc Nut	A105	1.0460
58 Position Indicator	A516 Gr70	1.0352
59 Security Dowel	Steel	Steel
60 Stem Key	AISI 4140	St60-2
62 Stem Split Ring	A182 F6a	1.4006
122 Yokenut Screw	Steel	Steel
142 Seger	Stainless Steel	Stainless Steel
242 Yokenut Key	AISI 4140	St60-2
279 Ground Ring	A182 F6a	1.4006
293 O-Ring	Viton™ A - 70Sh	Viton™ A - 70Sh
311 Safety Ring	A105	1.0352
318 Nut	A194 2H	Steel
331 Spacer	Steel	Steel
343 Lower Sliding Bearings	B148 Gr. A	B148 Gr. A
344 Upper Sliding Bearings	B148 Gr. A	B148 Gr. A

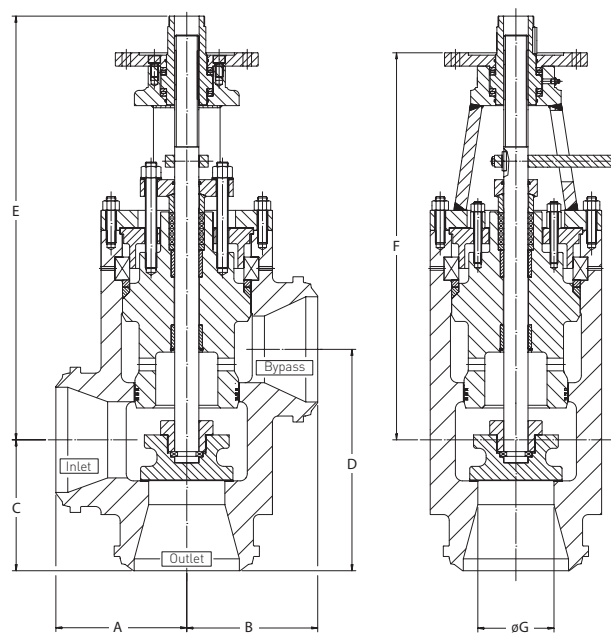
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SEMPELL RAISTEAM FEED WATER HEATER ISOLATION SYSTEM

3-Way Inlet Motor Operated Valve: Sizes NPS 10 - 26 (DN 250 - 650)

DIMENSIONS (Metric)

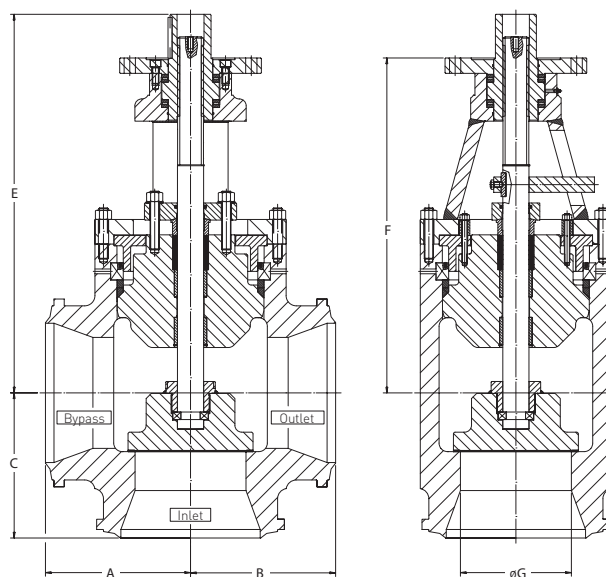
Size NPS	A	B	C	D	E	F	ΦG
10	275	275	275	465	885	813	160
12	325	325	325	550	935	866	200
14	325	325	325	620	1070	999	240
16	390	390	390	705	1180	1108	280
18	425	425	425	790	1305	1232	325
22	460	460	460	865	1505	1436	360
26	540	540	540	967	1555	1486	380



3-Way Outlet Motor Operated Valve: Sizes NPS 14 - 18 (DN 350 - 450)

DIMENSIONS (Metric)

Size NPS	A	B	C	E	F	ΦG
14	325	325	325	1025	953	240
16	390	390	390	1025	953	280
18	425	425	425	1050	981	325



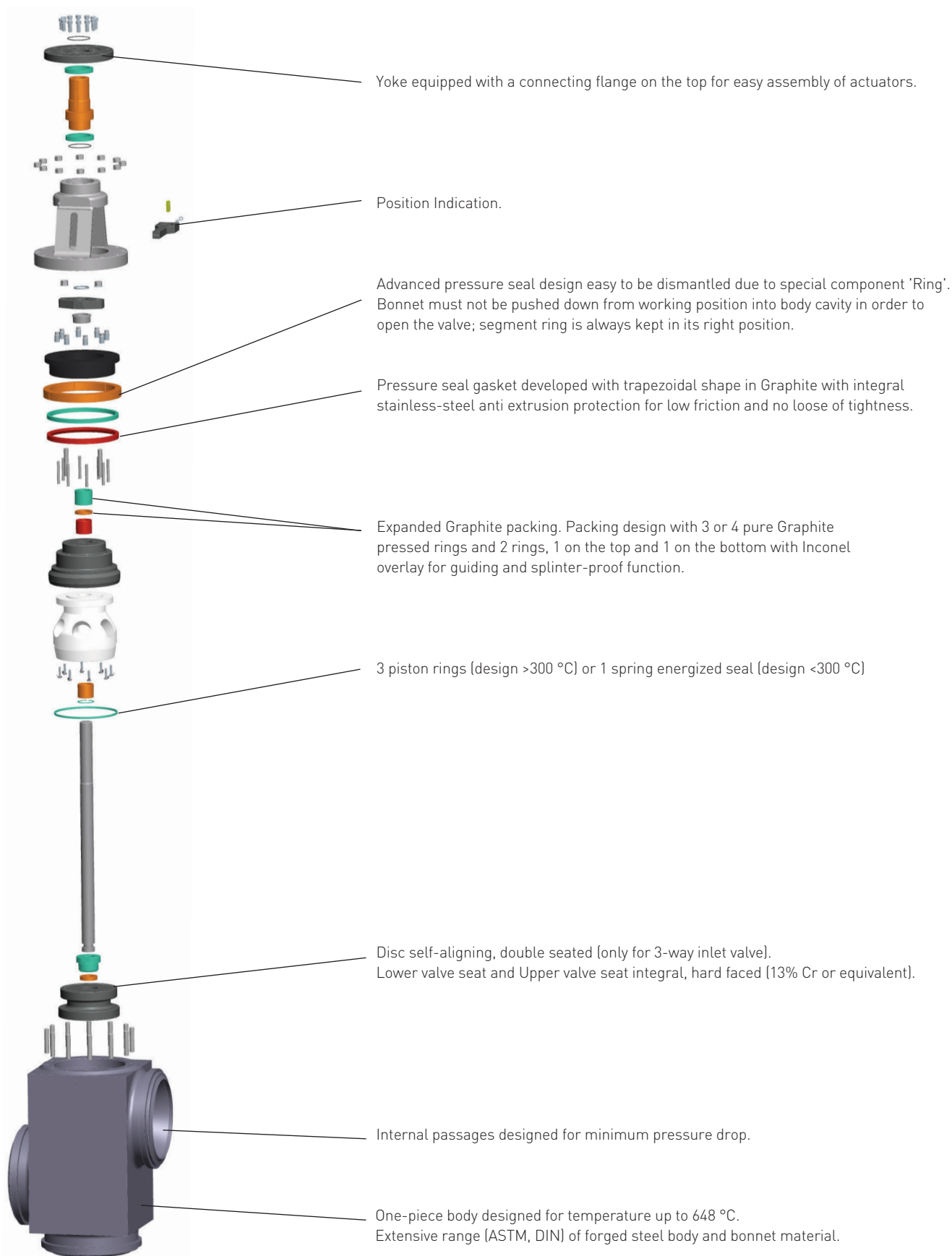
NOTES

1. Other sizes available on request. Please consult supplier.
2. Valves can be supplied together with the ancillary equipment to suit individual customer requirement.

SEMPELL RAISTEAM FEED WATER HEATER

ISOLATION SYSTEM

MOTOR OPERATED VALVE DESIGN LOW TEMPERATURE (<300 °C) AND HIGH TEMPERATURE (>300 °C)



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