



Manufacturer of burners and valves and instruments for hot water boilers hot oil, firetube and watertube steam

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Eshteal Arak Industrial Engineering Company is the only manufacturer of high-capacity rotary cup burners in the country, and these burners are used by all boiler companies in the country. Among the unique products produced by this company are power valves that are designed for saturated and superheated steam lines. This product was prouced for the first time in the country in 2014 in the Mobarake steel complex and at a pressure of 70 bar It has been used successfully Eshteal Arak Industrial Engineering Company has been modernizing its production lines since 2003 and is currently equipped with more than 98 machines, 61 of which are CNC lathes and milling centers (referred to at the end), stepped into the field of producing products with modern sophisticated technology It should be mentioned that this company has succeeded in obtaining the knowledge-based badge on burners and valves during two consecutive periods, and in order to enhance the brand and satisfy customers, the necessary standards such as ISIRI 7595, ISIRI 7594, ISO 3834, ISO 9001:2015 and implemented 5S



This valve is a reliable pressure relief valve for industrial applications involving variable back pressure. The design and options provide maximum versatility and premium performance.

This valve is available in the size of 3/4"

Pressure relief Valve



ESHTEAL ARAK

INDUSTRIAL ENGINEERING CO. Manufacturer of burners, valves and precision tools for steam boilers

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Pressure Relief Valve

Type TSV

Description

TSV is a reliable pressure relief valve for industrial applications involving variable back pressure.

The design and options provide maximum versatility and premium performance.

Maximum back pressure in liquid applications is 70 % of set pressure. The maximum back pressure in vapor and gas applications is 50% of set pressure. For liquid thermal relief applications, maximum back pressure is 90 % of set pressure.

Maximum back pressure is 400 psig.



Applications

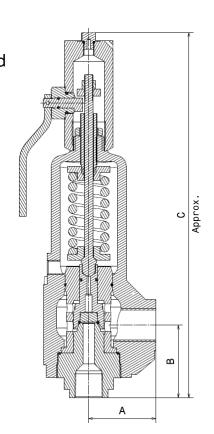
TSV pressure relief valve has a simplified, single trim design with superior application versatility.

This valve provides overpressure protection for low and Medium flow applications in refineries, chemical and petrochemical plants, power plant auxiliary systems, and pulp and paper mills.

Dimensions and pipe connections

Threaded connections

Orifice area		70.96 mm ²
Inlet thread type		NPT 3/4" (female)
Outlet thread type		NPT 1" (female)
Center to face A		62.5 mm
Center to race	В	67.8 mm
Height	С	345 mm





Pressure/temperature rating

Maximum set pressure	103 barg
Maximum Temperature	204 °C

Capacities

The capacities listed in the following tables are based on discharging to atmospheric pressure.

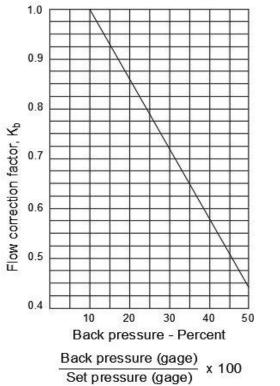
For applications involving back pressure these capacities must be multiplied by the back pressure correction factor determined from the applicable curve shown on Bottom.

Air Capacities

Capacity in standard cubic meters of air per minute at 16 $^{\circ}\text{C}$ and 10% overpressure.

Set Pressure (barg)	Capacity
10	9.7
20	18.5
30	27.4
40	36.3
50	45.2
60	54.1
70	63
82	73.6
94	84.3
103	92.3

Correction factor for vapors and gases, K_b for TSV valve at 10% overpressure

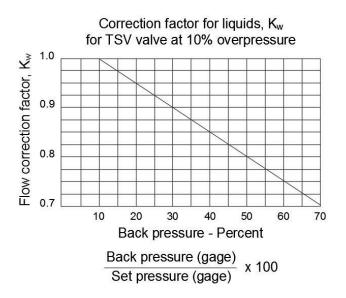




Water Capacities

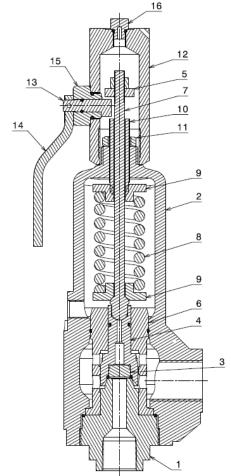
Capacity in liters per minute of water at 21°C and 10% overpressure.

Diff. Pressure ΔP* (bar)	Capacity
10	141
20	199
30	244
40	282
50	315
60	345
70	373
82	404
94	432
103	452



*Differential Pressure (ΔP) equals inlet pressure (set pressure plus overpressure) at flowing conditions minus back pressure.

Item	Part name	Material
1	Base	Stainless Steel
2	Cylinder	Cast Steel
3	Disk Insert	Stainless Steel
4	Disk Holder	Stainless Steel
5	Spindle Nut	Steel
6	Guide	Stainless Steel
7	Spindle	Stainless Steel
8	Spring	Stainless Steel
9	Spring Washer	Stainless Steel
10	Adjusting Bolt	Stainless Steel
11	Adjusting Nut	Steel
12	Сар	Steel
13	Cam	Stainless Steel
14	Lever	Steel
15	Cam Sleeve	Stainless Steel
16	Cap Plug	Steel



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These valves are high capacity nozzle type safety valves and they meet the requirements of the ASME Boiler and Pressure Vessel Code, Section I

Steam Safety Valve



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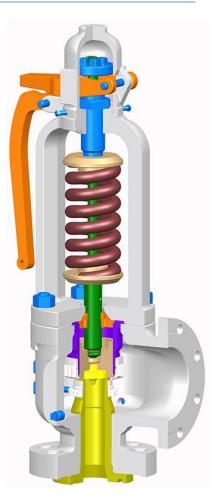
Steam Safety Valve

Type HC

Description

Style HC is a high capacity reaction type safety valve. All Style HC welded inlet safety valves are equipped with hydrostatic test plugs and shipped in two parts: valve body and valve superstructure. This makes handling easier for installation welding. Style HC safety valve opens with a sharp pop at the set pressure and remains open, relieving rated capacity at 3% overpressure.

As inlet pressure decays below the opening pressure, the safety valve remains open until a pressure about 4% below the set pressure is reached. At that point, the safety valve closes sharply.



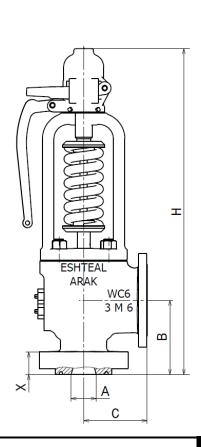
Applications

This valve designed for saturated and superheated steam applications to temperatures of 750°F.

Dimensions and pipe connections

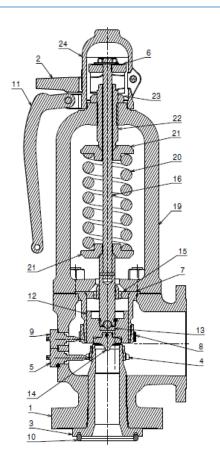
Dimensions (approx.) in mm

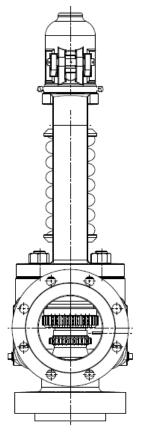
Valve Type				HC - 57
Valve Size (ir	let-orifice-outlet)			3 M 6
Orifice Area	(cm ²)			23.23
ANSI Class Flanged Inlet			3 in - 1500	
Connections ANSI Class Flanged Outlet			6 in - 150	
	Used to Find Bolt Length		Χ	67.5
	Inlet I.D.		Α	76.2
Dimensions	Center to face of	Inlet	В	222
	Center to face of	Outlet	С	190
	Height		Н	975





Item	Part Name	Material
1	Body	Alloy steel
2	Forked lever	S.G iron
3	Nozzle	Stainless steel
4	Nozzle ring	Stainless steel
5	Nozzle ring set screw	Stainless steel
6	Spindle nut	Carbon steel
7	Guide	Stainless steel
8	Guide ring	Stainless steel
9	Guide ring set screw	Stainless steel
10	Ring	Stainless steel
11	Hand lever	Carbon steel
12	Disc holder	Monel
13	Disc bushing	Stainless steel
14	Disc insert	Stainless steel/Stellite
15	Guide aligner	Bronze
16	Spindle assembly	Stainless steel/Monel
19	Bonnet	Alloy steel
20	Spring	Alloy steel
21	Spring washer	Carbon steel
22	Adjusting screw	Stainless steel
23	Adjusting screw lock nut	Carbon steel
24	Сар	Carbon steel







Steam Safety Valve

Type HCA

Description

Style HCA is a high capacity reaction type safety valve. In Style HCA valve, a cooling spool is placed between the body and bonnet to protect the spring from exposure to extreme temperatures. All Style HCA welded inlet safety valves are equipped with hydrostatic test plugs and shipped in two parts: valve body and valve superstructure. This makes handling easier for installation welding. Style HCA safety valve opens with a sharp pop at the set pressure and remains open, relieving rated capacity at 3% overpressure. As inlet pressure decays below the opening pressure, the safety valve remains open until a pressure about 4% below the set pressure is reached. At that point, the safety valve closes sharply.

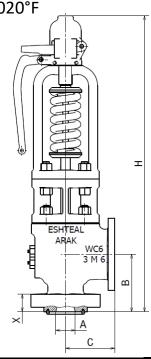


This valve designed for saturated and superheated steam applications. Style HCA is a high temperature version of the Style HC, with an alloy steel construction suitable to temperatures up to 1020°F

Dimensions and pipe connections

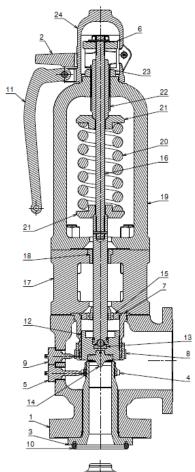
Dimensions (approx.) in mm

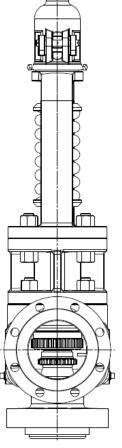
Valve Type			HCA - 57	
Valve Size (in	let-orifice-outlet)			3 M 6
Orifice Area	(cm ²)			23.23
Connections	ANSI Class Fl	anged Inle	et	3 in - 1500
ANSI Class Flanged Outlet			6 in - 150	
	Used to Find Bolt Length		Χ	67.5
	Inlet I.D.		Α	76.2
Dimensions	Center to face of	Inlet	В	222
	Center to face of	Outlet	С	190
	Height		Н	1150





Item	Part Name	Material
1	Body	Alloy steel
2	Forked lever	S.G iron
3	Nozzle	Stainless steel
4	Nozzle ring	Stainless steel
5	Nozzle ring set screw	Stainless steel
6	Spindle nut	Carbon steel
7	Guide	Stainless steel
8	Guide ring	Stainless steel
9	Guide ring set screw	Stainless steel
10	Ring	Stainless steel
11	Hand lever	Carbon steel
12	Disc holder	Monel
13	Disc bushing	Stainless steel
14	Disc insert	Stainless steel /Stellite
15	Guide aligner	Bronze
16	Spindle assembly	Stainless steel /Monel
17	Cooling spool	Alloy steel
18	Cooling spool aligner	Bronze
19	Bonnet	Alloy steel
20	Spring	Alloy steel
21	Spring washer	Carbon steel
22	Adjusting screw	Stainless steel
23	Adjusting screw lock nut	Carbon steel
24	Сар	Carbon steel





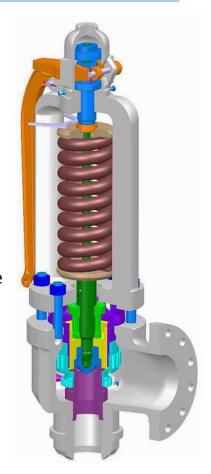


Steam Safety Valve

Type HCI (38 bar)

Description

Style HCI is a high capacity nozzle type safety valve and It meets the requirements of the ASME Boiler and Pressure Vessel Code, Section I, Power Boilers, and Section VIII, Unfired Pressure Vessels The adjustable nozzle and guide rings utilize the reactive and expansive forces of the flowing steam to provide full capacity lift. The open bonnet exposes the spring to atmosphere, minimizing thermal effects welded inlets and flanged outlets are the standard connections



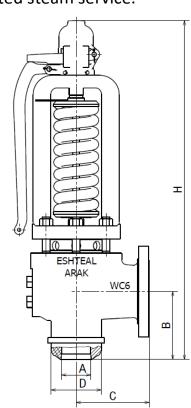
Applications

Style HCI is a safety valve for saturated and superheated steam service.

Dimensions and pipe connections

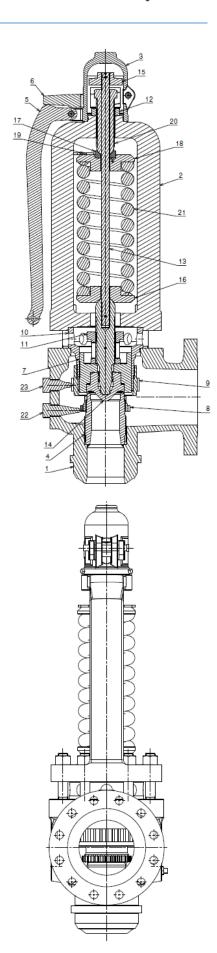
Dimensions (approx.) in mm

Valve Type				HCI - 58W	
Valve Size (ir	let-orific	e-outlet)			4 P2 6
Orifice Area	(cm²)				45.61
Connections (mm) Butt Weld Inlet ANSI Class Flanged Outlet			101.6		
			Outlet	6 in - 300	
	Inlet I.D	Inlet I.D.		Α	101.6
	Inlet O.I	D.		D	174.6
Dimensions	Center to face of	Inlet	В	238	
		Outlet	С	254	
	Height			Η	1170





i	D . M	
Item	Part Name	Material
1	Body	Alloy steel
2	Bonnet	Alloy steel
3	Сар	Carbon steel
4	Nozzle	Stainless steel
5	Hand lever	Carbon steel
6	Forked lever	Carbon steel
7	Disc holder	Nickel alloy
8	Nozzle ring	Stainless steel
9	Guide ring	Stainless steel
10	Guide	Nickel alloy
11	Disc holder retaining nut	Stainless steel
12	Adjusting screw nut	Stainless steel
13	Spindle assembly	Stainless steel
14	Disc insert	Inconel
15	Spindle nut	Stainless steel
16	Bottom spring washer	Steel
17	Bearing adapter	Alloy steel
18	Top spring washer	Steel
19	Top spring washer pin	Steel
20	Adjusting screw	Stainless steel
21	Spring	Alloy steel
22	Nozzle Ring Set Screw	Stainless steel
23	Guide Ring Set Screw	Stainless steel



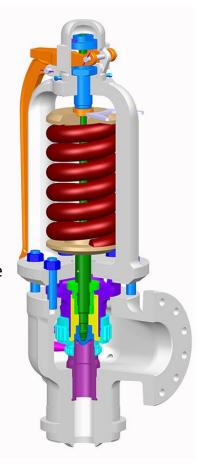


Steam Safety Valve

Type HCI (181.5 bar)

Description

Style HCI is a high capacity nozzle type safety valve and It meets the requirements of the ASME Boiler and Pressure Vessel Code, Section I, Power Boilers, and Section VIII, Unfired Pressure Vessels The adjustable nozzle and guide rings utilize the reactive and expansive forces of the flowing steam to provide full capacity lift. The open bonnet exposes the spring to atmosphere, minimizing thermal effects welded inlets and flanged outlets are the standard connections



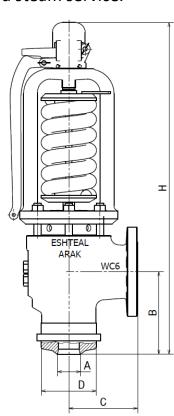
Applications

Style HCI is a safety valve for saturated and superheated steam service.

Dimensions and pipe connections

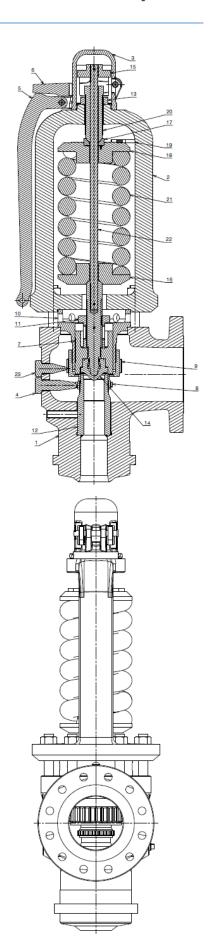
Dimensions (approx.) in mm

Valve Type					HCI - 98W			
Valve Size (ir	let-orifice	e-outlet)			3 M2 6			
Orifice Area	(cm²)				25.65			
Connections	(mm)	mm) Butt Weld Inlet ANSI Class Flanged Outlet						
Connections	(111111)	ANSI Class	Flanged (Outlet	6 in - 300			
	Inlet I.D		Α	76.2				
	Inlet O.) .		D	203.2			
Dimensions	Contort	o face of	Inlet	В	305			
	Center	o lace of	Outlet	Outlet 6 in - 3 A 76.2 D 203. B 305 C 254	254			
	Height			Η	1240			





Item	Part Name	Material
1	Body	Alloy steel
2	Bonnet	Alloy steel
3	Cap	Carbon steel
4	Nozzle Ring Set Screw	Stainless steel
5	Hand lever	Carbon steel
6	Forked lever	Carbon steel
7	Disc holder	Nickel alloy
8	Nozzle ring	Stainless steel
9	Guide ring	Stainless steel
10	Guide	Nickel alloy
11	Disc holder retaining nut	Stainless steel
12	Nozzle	Stainless steel
13	Adjusting screw nut	Stainless steel
14	Disc insert	Inconel
15	Spindle nut	Stainless steel
16	Bottom spring washer	Steel
17	Bearing adapter	Alloy steel
18	Top spring washer	Steel
19	Top spring washer pin	Steel
20	Adjusting screw	Stainless steel
21	Spring	Alloy steel
22	Spindle assembly	Stainless steel
23	Guide Ring Set Screw	Stainless steel





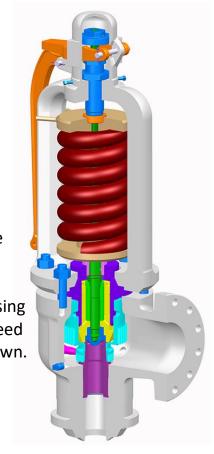
Steam Safety Valve

Type HE

Description

Style HE safety valve is high pressure, high capacity Reaction type valve, It incorporates the unique patented eductor control that permits the valve to attain full capacity lift at a pressure 3% above popping pressure in accordance with the requirements of Section I of the ASME Boiler and Pressure Vessel Code.

HE advanced trim design has the backpressure assist closing feature and patented Eductor Control, eliminating the need for complex adjustment to obtain Code required blowdown.



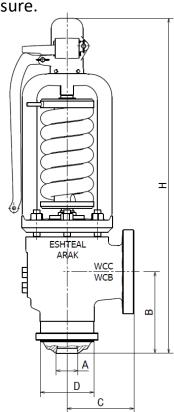
Applications

designed specifically for saturated steam service on boiler drums having design pressures above 2000 psig [138 barg] up to critical pressure.

Dimensions and pipe connections

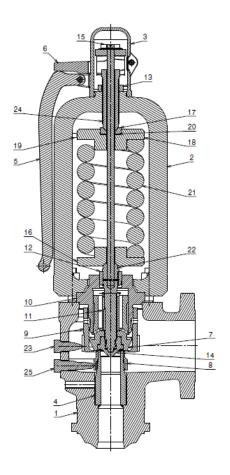
Dimensions (approx.) in mm

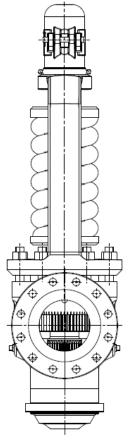
Valve Type					HE - 96W		
Valve Size (ir	let-orific	e-outlet)			3 M2 6		
Orifice Area	(cm²)				25.65		
Connections	(mm)	Butt	Weld Inle	t	76.2		
Connections	(111111)	ANSI Clas	ANSI Class Flanged Outlet 6 in - 300				
	Inlet I.D	·.		Α	76.2		
	Inlet O.I	D.		D	203		
Dimensions	Contor t	o face of	Inlet	В	305		
2	Center t	er to face of Outlet		С	254		
	Height			Н	1270		





Item	Part Name	Material
1	Body	Carbon steel
2	Bonnet	Carbon steel
3	Cap	Carbon steel
4	Nozzle	Stainless steel
5	Hand lever	Carbon steel
6	Forked lever	Carbon steel
7	Disc holder	Nickel alloy
8	Nozzle ring	Stainless steel
9	Guide ring	Stainless steel
10	Guide	Nickel alloy
11	Disc holder retaining nut	Stainless steel
12	Piston	Nickel alloy
13	Adjusting screw nut	steel
14	Disc insert	Inconel
15	Spindle nut	steel
16	Bottom spring washer	Steel
17	Bearing adapter	Alloy steel
18	Top spring washer	Steel
19	Top spring washer pin	Steel
20	Thrust bearing	Steel
21	Spring	Alloy steel
22	Spindle assembly	Stainless steel
23	Guide Ring Set Screw	Stainless steel
24	Adjusting screw	Stainless steel
25	Nozzle Ring Set Screw	Stainless steel





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This safety valve is a type of High Lift and Semi Nozzle valves, which are available in two forms, single spring and double spring, which are suitable for steam, air and water, in these valves. Spring load is taken on the metal-to-metal seating with the PTFE facing functioning only as an efficient seal.

The material of the body is Cast Iron up to the maximum pressure of 11bar and Cast Steel up to the maximum pressure of 22bar

This valve is available in the sizes of $1 \frac{1}{2}$, $\frac{2}{3}$, $2 \frac{1}{2}$, 3

Dual Spring Safety valve



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Manufacturer of burners, valves
and precision tools for steam boilers

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Dual Spring Safety Valve

Type DSF

Description

This high lift safety valve is our standard recommendation for shell boilers and other plant items. Spring load is taken on the metal-to-metal seating with the PTFE facing functioning only as an efficient seal. Discharge capacities in accordance with BS 6759-1.



Applications

Dual spring safety valve is suitable for steam or Pressure vessels and piping systems containing gas and air.

Dimensions and pipe connections

Cast iron Body Dimensions (approx.) in mm

				- (- 1	11 1	7									
		Valve Dimensions and Standard of Flange													
Nominal	Inlet Fl	ange	(BS1	.0 Tab	le F)	Ou	tlet F	lang	e (BS1	.0 Tak	ole A)				
size	Size	D1	N	0	Р	Size	D2	Q	U	٧	w	Р	В	С	Н
1 ½"	2 ½" DN65	184	8	18	146	4" DN100	216	2	M16	2	18	178	216	174	575
2"	3" DN80	203	8	18	165	4" DN100	216	2	M16	2	18	178	242	184	645
2 ½"	4" DN100	229	8	18	190	5" DN125	254	2	M16	2	18	210	264	210	685
3"	5" DN125	279	8	22	235	6" DN150	279	2	M16	2	18	235	288	224	775



■ Cast steel Body Dimensions (approx.) in mm

	add steel body billionis (upprox.) in tilli															
	Valve Dimensions and Standard of Flange															
Nominal	Inle	t Flang	e (BS	10 Ta	ble H)		0	utlet I	lang	e (BS1	0 Tab	le A)				
size	Raised Face	Size	D1	N	0	Р	Size	D2	Q	U	V	W	Р	В	С	Н
1 1/2"	114 x 0.8	2 ½" DN65	184	8	22	146	4" DN100	216	2	M16	2	18	178	219	174	575
2"	127 x 0.8	3" DN80	203	8	22	165	4" DN100	216	2	M16	2	18	178	252	178	645
2 ½"	152 x 0.8	4" DN100	229	8	22	190	5" DN125	254	4	M16	4	18	210	275	210	685
3"	178 x 0.8	5" DN125	280	8	22	235	6" DN150	279	4	M16	4	18	235	297	224	775

Outlet flange

Q = No. of tapped holes

U = Thread size

V = No. of plain holes

W = Dia. of plain holes

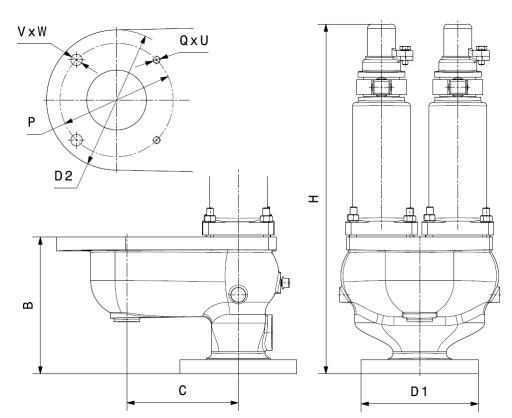
P = Pitch circle dia.

Inlet flange

N = No. of holes

O = Dia. of holes

P = Pitch circle dia.



Pressure/temperature rating

•		0
Body material	Maximum set pressure	Temperature
Cast iron	11 bar	Up to 220 °C
Cast steel	20 bar	Up to 224 °C



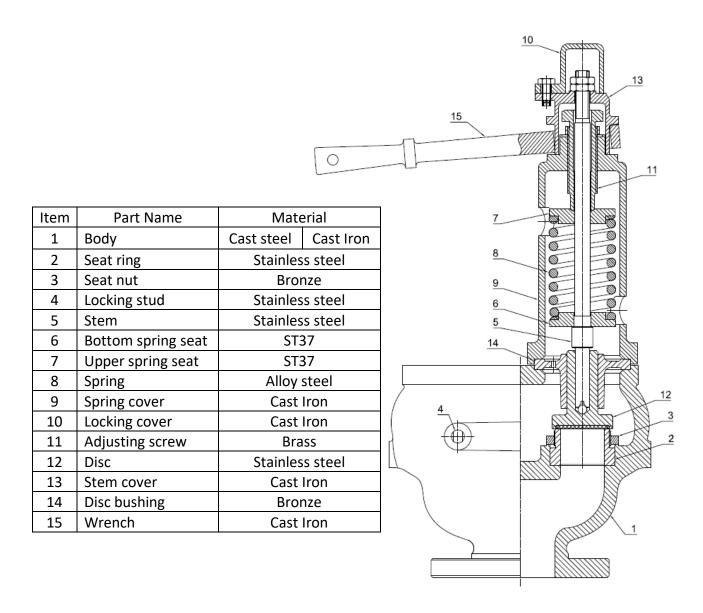
Capacities

Discharge capacity to BS6759 Part 1 1984.

Coefficient of discharge $K_{dr} = 0.37$ Overpressure 10%.

		I Dry sa	turated	steam	П	Air at 1	5°C (60°f)	
Set				Capacition	es (kg/h)			
Pressure				Nomir	al size			
(gauge) bar	1 7	/2"	2	"	2.3	/2"	3	"
	I	П	I	Ш	I	П	I	П
1	839	1025	1311	1601	2216	2706	3357	4100
2	1279	1562	1998	2440	3377	4124	5116	6248
3	1719	2099	2685	3279	4539	5542	6875	8396
4	2159	2637	3372	4118	5700	6960	8634	10544
5	2599	3174	4059	4957	6861	8378	10393	12691
6	3039	3711	4746	5795	8022	9796	12152	14839
7	3479	4248	5433	6634	9183	11214	13911	16987
8	3919	4785	6120	7473	10345	12632	15670	19135
9	4359	5322	6807	8312	11506	14050	17429	21283
10	4798	5860	7494	9151	12667	15468	19188	23431
11	5238	6397	8181	9990	13828	16886	20947	25579
12	5678	6934	8868	10829	14989	18304	22706	27726
13	6118	7471	9555	11668	16151	19722	24465	29874
14	6558	8008	10242	12507	17312	21140	26223	32022
15	6998	8546	10929	13345	18473	22558	27982	34170
16	7438	9803	11616	14184	19634	23976	29741	36318
17	7878	9620	12303	15023	20795	25394	31500	38466
18	8318	10157	12990	15862	21956	26812	33259	40614
19	8758	10694	13677	16701	23118	28230	35018	42761
20	9198	11231	14364	17540	24279	29647	36777	44909





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This safety valve is a type of High Lift and Semi Nozzle valves, which are available in two forms, single spring and double spring, which are suitable for steam, air and water, in these valves. Spring load is taken on the metal-to-metal seating with the PTFE facing functioning only as an efficient seal. The material of the body is Cast Iron up to the maximum pressure of 11bar and Cast Steel up to the maximum pressure of 22bar This valve is available in the sizes of 1½", 2", 2½", 3"

Single Spring Safety valve



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- Factory: Hadid St-Haji Abad Industrial Zone 7th km of Qom Road-Arak-Iran
- Head office: 4th floor-No.3 Apartment Asef Vaziri alley southern Bahar St Taleghani St-Tehran-Iran



Single Spring Safety Valve

Type SSF

Description

This high lift safety valve is our standard recommendation for shell boilers and other plant items. Spring load is taken on the metal-to-metal seating with the PTFE facing functioning only as an efficient seal. Discharge capacities in accordance with BS 6759-1



Applications

Single spring safety valve is suitable for steam or Pressure vessels and piping systems containing gas and air.

Dimensions and pipe connections

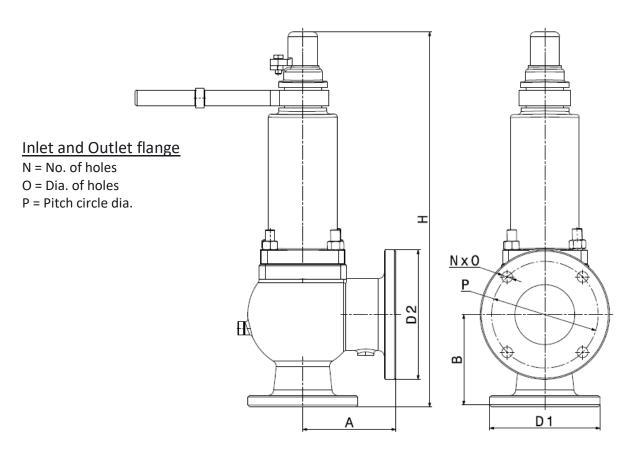
Cast iron Body Dimensions (approx.) in mm

			Va	lve [Dimen	sions an	d Star	ndaro	d of I	lange	j		
Nominal size	Inlet F	lange	(BS10) Tab	le F)	Outlet F	lange	(BS1	0 Tal	ole A)	Α	В	Н
3120	Size	D1	Ν	0	Р	Size	D2	Ν	0	Р		ם	'''
1 ½"	1 ½" DN40	140	4	18	105	2 ½" DN65	165	4	18	127	135	135	555
2"	2" DN50	165	4	18	127	3" DN80	184	4	18	146	146	145	610
2 ½"	2 ½" DN65	184	8	18	146	4" DN100	216	4	18	178	155	154	650
3"	3" DN80	203	8	18	165	5" DN125	254	4	18	210	180	180	765



Cast steel Body Dimensions (approx.) in mm

			V	alve	Dime	nsion	s and Sta	andard	d of F	lange	9			
Nominal	Ir	nlet Flange	e (BS1	0 Tab	le H)		Outlet	Flange	e (BS	10 Ta	ble A)			
size	Size	Raised Face	D1	N	0	Р	Size	D2	N	0	Р	Α	В	Н
1 ½"	1 ½" DN40	82 x 0.8	140	4	18	105	2 ½" DN65	165	4	18	127	135	135	555
2"	2" DN50	102 x 0.8	165	4	18	127	3" DN80	184	4	18	146	146	150	615
	lı	nlet Flange	e (BS1	0 Tab	le H)		Outlet Flange (BS10 Table E)							
2 ½"	2 ½" DN65	114 x 0.8	184	8	22	146	4" DN100	216	8	18	178	155	160	656
3"	3" DN80	127 x 0.8	203	8	22	165	5" DN125	254	8	18	210	180	180	765



Pressure/temperature rating

Body material	Maximum set pressure	Temperature
Cast iron	11 bar	Up to 220 °C
Cast steel	20 bar	Up to 224 °C



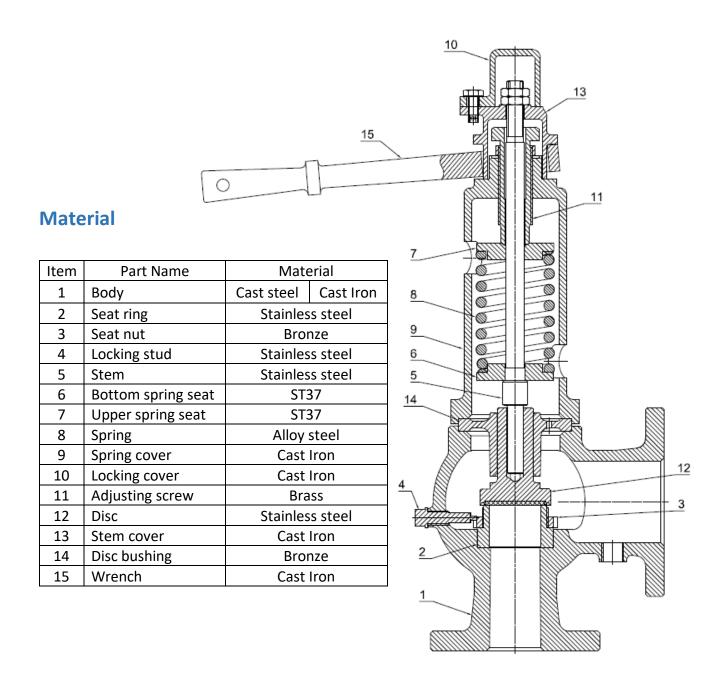
Capacities

Discharge capacity to BS6759 Part 1 1984.

Coefficient of discharge $K_{dr} = 0.37$ Overpressure 10%.

_		I Dry sa	turated	steam	II	Air at 1	5°C (60°f)					
Set	Capacities (kg/h)											
Pressure				Nomir	nal size							
(gauge) bar	1 7	/2"	2	<i>"</i>	2 2	/ ₂ "	3)")				
		П	I	Ш	- 1	Ш	I	Ш				
1	512	839	789	1311	1353	2216	2050	3357				
2	781	1279	1203	1998	2062	3377	3124	5116				
3	1049	1719	1617	2685	2771	4539	4198	6875				
4	1318	2159	2030	3372	3480	5700	5272	8634				
5	1587	2599	244 4	4059	4189	6861	6345	10393				
6	1855	3039	2858	4746	4898	8022	7419	12152				
7	2124	3479	3271	5433	5607	9183	8493	13911				
8	2392	3919	3685	6120	6316	10345	9567	15670				
9	2661	4359	4099	6807	7025	11506	10641	17429				
10	2930	4798	4512	7494	7734	12667	11715	19188				
11	3198	5238	4926	8181	8443	13828	12789	20947				
12	3467	5678	5340	8868	9152	14989	13863	22706				
13	3735	6118	5753	9555	9861	16151	14937	24465				
14	4004	6558	6167	10242	10570	17312	16011	26223				
15	4273	6998	6581	10929	11279	18473	17085	27982				
16	4541	7438	6994	11616	11988	19634	18159	29741				
17	4810	7878	7408	12303	12697	20795	19233	31500				
18	5078	8318	7822	12990	13406	21956	20307	33259				
19	5347	8758	8235	13677	14115	23118	21380	35018				
20	5615	9198	8649	14364	14823	24279	22454	36777				





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This valve are designed to meet all industrial applications up to F orifice. open rapidly with an overpressure of max. 10 % to the full design lift. Threaded connections (DN 15 /DN 15) male and female. The material of the body is stainless steel. the type of sealing is Metal on Metal

Safety Relief Valves ½ "



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Safety Relief Valve

Type SFC 37

- Conventional design
- Long design

Description

- Compact Performance Safety Valves offer ultimate protection against unallowable overpressures in all applications for steam, gases and liquids where smaller capacities are required
- Open rapidly with an overpressure of max. 10 % to the full design lift
- Have a maximum blow down of minus 10 % for steam/gas service and Minus 20 % for liquid service
- Are designed to meet all industrial applications up to F orifice
- Compact Performance Safety Valves are designed, marked, produced according to EN ISO 4126-1

Applications

- Air/gas compressors and pumps
- Technical gases and CO₂ plants
- Cylinder filling stations
- Chemical equipment and piping
- Pressure vessels and piping systems containing gas, air, liquid or steam
- LPG / LNG terminals, carriers etc.
- Cryogenic systems and oxygen applications
- Thermal relief
- High pressure extraction plants



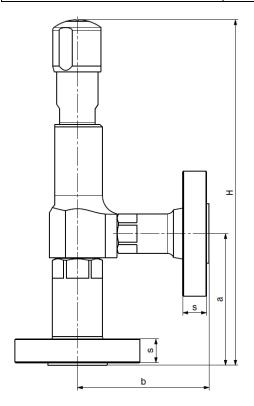
Conventional design Cap E4

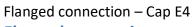


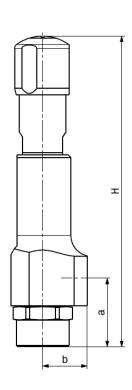
Dimensions and pipe connections

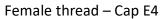
Threaded connections

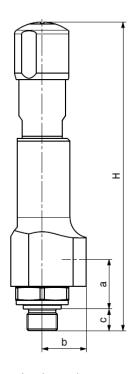
Indak and Outlat	.	Valve	model					
Inlet and Outlet	tnread	Conventional design	Long design					
Orifice diameter		10	mm					
Orifice area		78.5 mm ²						
Inlet thread type		DIN ISO 228-1 G 1/2"						
Outlet thread type	DIN ISO 228-1 G 1/2"							
Inlet and Outlet thread female								
Center to face	Inlet a	46 mm						
Center to race	Outlet b	30	mm					
Height (Cap E4)	H max.	209 mm	230 mm					
Inlet thread male a	and Outle	t thread female						
Center to face	Inlet a	34	mm					
Center to race	Outlet b	30 mm						
Height (Cap E4)	H max.	212 mm	231 mm					
Length of screw end	С	15	mm					











male thread - Cap E4



1.1.4		Valve m	nodel					
Inlet and Outle	t Hange	Conventional design	Long design					
Orifice diameter		10 m	m					
Orifice area		78.5 m	nm²					
Inlet and Outlet	flange (DIN I	EN 1092-1 / Flange rating clas	s PN 40)					
Inlet and Outlet flan	ge Size	DN 1	.5					
Cambanta face	Inlet a	100 n	nm					
Center to face	Outlet b	100 m	nm					
Height (Cap E4)	H max.	263 mm	284 mm					
Flange thickness	S	18 mm						
Inlet and Outlet	flange (ASM	E B16.5 / Flange rating class 1	50)					
Inlet and Outlet flan	ge Size	NPS 1/2"						
Center to face	Inlet a	100 m	nm					
Center to face	Outlet b	100 m	nm					
Height (Cap E4)	H max.	263 mm	284 mm					
Flange thickness	S	14 m	m					
Inlet and Outlet	flange (ASM	E B16.5 / Flange rating class ≥	300)					
Inlet and Outlet flan	ge Size	NPS 1	/2"					
Center to face	Inlet a	103 m	ım					
Center to face	Outlet b	100 mm						
Height (Cap E4)	H max.	266 mm	287 mm					
Flange thickness	S	18 m						

Pressure/temperature rating (Metric units)

Valve model		Conventional design	Long design			
Inlet Body	Pressure rating	PN 320				
Outlet body	Pressure rating	PN 160				
Minimum set pressure	p (barg) S/G/L	0.1	68			
Maximum set pressure	p (bar g) S/G/L	68	180			
Tomporature (acc to DINIEN)	min (°C)	-270				
Temperature (acc. to DIN EN)	max (°C)	+280				

Coefficient of discharge K_{dr} (EN ISO 4126-1)

	borron 80 mai (=m ion
S/G	0.50
L	0.35



Capacities

Saturated steam

Capacities for saturated steam according to EN ISO 4126-1, based on set pressure 10 % over pressure. Capacities at 1 bar (14.5 psig) and below are based on 0.1 bar (1.45 psig) Overpressure.

Saturated steam (EN ISO 4126-1)

Set pressure (bar)	0.1	0.2	0.5	1	2	3	4	5	10	20	30	50	68
Capacities (kg/h)	12	17	29	43	70	94	118	141	255	483	712	1181	1620

Air

Capacities for air according to EN ISO 4126-1, based on set pressure plus 10 % Over pressure at 0 °C and 1013 mbar. Capacities at 1 bar (14.5 psig) and below are based on 0.1 bar (1.45 psig) overpressure.

Air (EN ISO 4126-1)

Set pressure (bar)	0.1	0.2	0.5	1	2	3	4	5	10	20	30	50	68
Capacities (m _n ³ /h)	14	19	34	51	84	115	145	174	321	615	909	1498	2027

Water

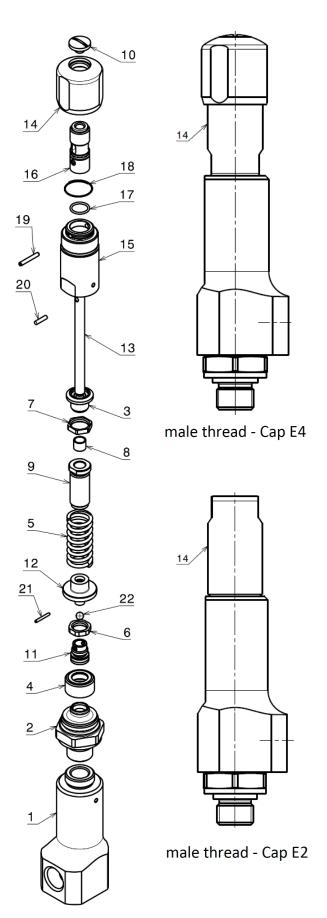
Capacities for water according to EN ISO 4126-1, based on set pressure plus 10 % overpressure at $20 \degree C$ ($68 \degree F$). Capacities at 1 bar (14.5 psig) and below are based on 0.1 bar (1.45 psig) overpressure.

Water (EN ISO 4126-1)

Set pressure (bar)	0.1	0.2	0.5	1	2	3	4	5	10	20	50	68
Capacities (10³kg/h)	0.63	0.77	1.08	1.5	2.1	2.5	2.9	3.3	4.6	6.6	10.4	12.1



ItemPart NameMaterialOutlet Body- Threaded connectionStainless Steen- Flanged connection- Flanged connectionStainless Steen- Flanged connection- Stainless Steen- Flanged connection- Stainless Steen- Spring Plate- Stainless Steen- Spring- Stainless Steen- Spring- Stainless Steen- Disc Nut- Stainless Steen- Lock Nut- Stainless Steen	eel eel
1 - Threaded connection - Flanged connection Inlet Body 2 - Threaded connection - Flanged connection - Flanged connection 3 Spring Plate 4 Cone 5 Spring - Stainless Stere 5 Spring - Stainless Stere 5 Spring - Stainless Stere 6 Disc Nut - Stainless Stere 7 Lock Nut - Stainless Stere	eel eel
2 - Threaded connection - Flanged connection 3 Spring Plate Stainless Stainl	eel
4 Cone Stainless Ste 5 Spring Stainless Ste 6 Disc Nut Stainless Ste 7 Lock Nut Stainless Ste	eel
5 Spring Stainless Ste 6 Disc Nut Stainless Ste 7 Lock Nut Stainless Ste	
6 Disc Nut Stainless Ste 7 Lock Nut Stainless Ste	el
7 Lock Nut Stainless Ste	
	el
	el
8 Bush PTFE	
9 Adjusting Screw Stainless Ste	el
10 Stop Unit Stainless Ste	el
11 Disc Stainless Ste	el
12 Spring Plate Stainless Ste	el
13 Spindle Stainless Ste	el
14 Cap E2 Stainless Ste	el
15 Lever Cover Stainless Ste	eel
16 Spindle Cap Stainless Ste	el
17 O-Ring Viton	
18 Retaining Clip Stainless Ste	el
19 Spring Pin Stainless Ste	el
20 Pin Stainless Ste	el
21 Spring Pin Stainless Ste	el
22 Ball Stainless Ste	



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The SV500 full lift, full nozzle safety valve is suitable for steam, air, inert industrial gas and non-hazardous liquid service. Valves are available in sizes ranging $\frac{3}{4}$ ", $\frac{1}{4}$ ", $\frac{1}{4}$ ", $\frac{1}{4}$ ", $\frac{1}{4}$ " and have a bronze body with female screwed connections and a stainless steel nozzle

Spring Safety valve SFV500



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Spring Safety Valve

Type SFV 500

Description

The SV615 full lift, full nozzle safety valve is suitable for steam, air, inert industrial gas and non-hazardous liquid service. Valves are available in sizes ranging from DN20 to DN50 and have a bronze body with female screwed connections and a stainless-steel nozzle.

This valve have a closed bonnet with either a lifting lever and metal on metal seal.



The SV615 is suitable for the protection of steam or hot water boilers, generators, vessels, receivers and air compressors, autoclaves, downstream of pressure reducing valves and for general pressure relief applications.

Pressure/temperature limits

body design			PN25	
	Maximum 34" to 1 14"		18 bar g	
Set pressure range		1 ½" and 2"	14 bar g	
	Minimum		1.5 bar g	
Tomporatura	Maximum	230°C		
Temperature	Minimum	-90°C		
		Steam	5%	
	Overpressure	Gas	10%	
Performance data		Liquid	10%	
	Blowdown limits	Steam, gas	10%	
	biowdowii iiiiits	Liquids	20%	
Maximum permitte	d backpressure		10% of set pressure	
Maximum cold hydr	aulic test pressure		37 bar	

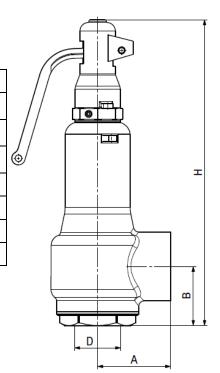


Dimensions and pipe connections

Dimensions (approx.) in mm

Valve size		DN20	DN25	DN32	DN40	DN50
Inlet thread fem	ale	3/4"	1"	1 1/4"	1 ½"	2"
Outlet thread fe	male	1 ¼"	1 ½"	2"	2 ½"	3"
Orifice area	(mm²)	314	452	661	1075	1662
Orifice diameter	D	20	24	29	37	46
Center to face	Inlet B	44	48	58	67	80
Center to race	Outlet A	55	60	70	81	97
Height	Н	231	244	281	368	424

- Inlet and Outlet Connections Screwed BSP (BS 21 parallel)



Capacities

Saturated steam and Air

Capacities for saturated steam and Air according to EN ISO 4126.

		I Dry saturated steam II Air at 15°C (60°f)									
Set		Сар	acities	(kg/h)			Cap	acities	(l/s)		
pressure		Valve size in/out									
(bar g)	DN20/	/DN32	DN25,	/DN40	DN32/	/DN50	DN40,	/DN65	DN50/	/DN80	
	I	Ш	- 1	Ш		Ш	I	Ш		Ш	
1.5	328	115	472	165	690	241	1122	392	1734	606	
2	392	138	564	199	824	291	1341	473	2073	732	
3	519	186	747	267	1092	391	1776	635	2746	982	
4	645	233	929	335	1358	490	2008	797	3414	1 233	
5	771	280	1109	403	1622	590	2638	959	4079	1 483	
6	896	328	1289	472	1886	690	3067	1 121	4741	1 734	
7	1020	375	1469	540	2148	789	3494	1 283	5401	1 984	
8	1145	422	1648	608	2410	889	3920	1 446	6060	2 235	
9	1269	470	1827	676	2672	988	4345	1 608	6717	2 485	
10	1393	517	2005	744	2933	1 088	4769	1 770	7374	2 736	
11	1517	564	2184	812	3194	1 188	5194	1 932	8030	2 986	
12	1641	612	2362	880	3454	1 287	5618	2 094	8685	3 237	
13	1765	659	2540	948	3715	1 387	6042	2 256	9340	3 487	
14	1888	706	2718	1 017	3975	1 487		2 418		3 738	
15	2012		2897		4236						
16	2136	801	3075	1 153	4496	1 686					
17	2260		3253		4757						
18	2384	896	3431	1 289	5018	1 885					



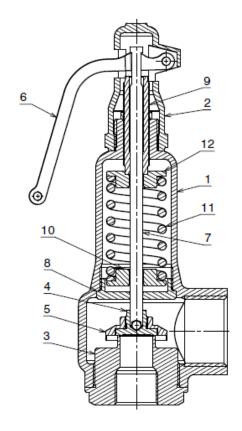
Water and Hot water

Capacities for water and hot water according to EN ISO 4126.

			Water	at 20°C	II	Hot wate	er at or a	bove 100 '	°C			
Set		Capacities (kg/h) Capacities (Kw)										
pressure					Valve size in/out							
(bar g)	DN20)/DN32	DN25	5/DN40	DN32	DN32/DN50		/DN65	DN50/DN80			
	- 1	Ш	1	Ш	- 1	Ш	1	Ш	1	Ш		
1.5	10668	142.36	15356	204.92	22456	299.66	36521	487.36	56463	753.47		
2	12318	171.96	17731	247.45	25930	361.86	42171	588.51	65198	909.86		
3	15086	230.99	21717	332.51	31758	486.24	51649	790.81	79851	1222.62		
4	17420	290.08	25076	417.57	36671	610.63	59639	993.11	92204	1535.38		
5	19476	349.17	28036	502.63	40999	735.02	66678	1195.42	103088	1848.15		
6	21335	408.26	30712	587.69	44913	859.41	73042	1397.72	112927	2160.91		
7	23045	467.36	33173	672.75	48511	983.80	78895	1600.12	121975	2473.67		
8	24636	526.45	35463	757.81	51861	1108.18	84342	1802.32	130397	2786.43		
9	26130	585.54	37614	842.88	55006	1232.57	89458	2004.62	138307	3099.20		
10	27544	644.63	39649	927.94	57982	1356.96	94297	2206.92	145788	3411.96		
11	28888	703.72	41584	1013.00	60812	1481.35	98900	2409.22	152904	3724.72		
12	30172	762.81	43433	1098.06	63516	1605.74	103298	2611.52	159703	4037.49		
13	31405	821.90	45207	1183.12	66110	1730.12	107515	2813.82	166224	4350.25		
14	32590	880.99	46913	1268.18	68605	1854.51	111574	3016.12	172499	4663.01		
16	34840	999.17	50152	1438.30	73342	2103.29						
18	36954	1117.36	53194	1608.42	77791	2352.06						

Material

Item	Part name	Material
1	Body	Bronze
2	Lever housing	Bronze
3	Nozzle	Stainless steel
4	Disk	Stainless steel
5	Skirt	Brass
6	Lever	SG iron
7	Stem	Stainless steel
8	Stem guide	Brass
9	Adjustment screw	Brass
10	Spring end plate	Brass
11	Spring	Alloy steel
12	Spring end plate	Brass



Eshteal Arak Industrial Engineering Company is the only manufacturer of high-capacity rotary cup burners in the country, and these burners are used by all boiler companies in the country . Among the unique products produced by this company are power valves that are designed for saturated and superheated steam lines. This product was prouced for the first time in the country in 2014 in the Mobarake steel complex and at a pressure of 70 bar It has been used successfully Eshteal Arak Industrial Engineering Company has been modernizing its production lines since 2003 and is currently equipped with more than 98 machines, 61 of which are CNC lathes and milling centers (referred to at the end), stepped into the field of producing products with modern sophisticated technology It should be mentioned that this company has succeeded in obtaining the knowledge-based badge on burners and valves during two consecutive periods, and in order to enhance the brand and satisfy customers, the necessary standards such as ISIRI 7595, ISIRI 7594, ISO 3834, ISO 9001:2015 and implemented 5S



These valves are Full Lift and Semi Nozzle types, which are suitable for steam, air and water. In these valves, the type of sealing is Metal on Metal. The material of the body is Cast Iron up to the maximum pressure of 12 bar and Ductile Iron up to the maximum pressure of 17.5 bar and Cast Steel up to the maximum pressure of 28 bar.

This valve is available in the size of 1", 1 ½ ", 2", 3", 4"

Conventional Safety Valve (SFV 600)



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Spring Safety Valve

Type SFV 600

Description

The SFV600 is full lift, semi nozzle, spring loaded safety valve. This valve has open bonnet, lifting lever and metal on metal seal. For steam, air and water, calculations are according to EN ISO 4126.



Applications

This safety valve is suitable for:
Steam, Air, vessels and general relief applications.

Ability to built up back pressure max. 10% from set pressure.

Dimensions and pipe connections

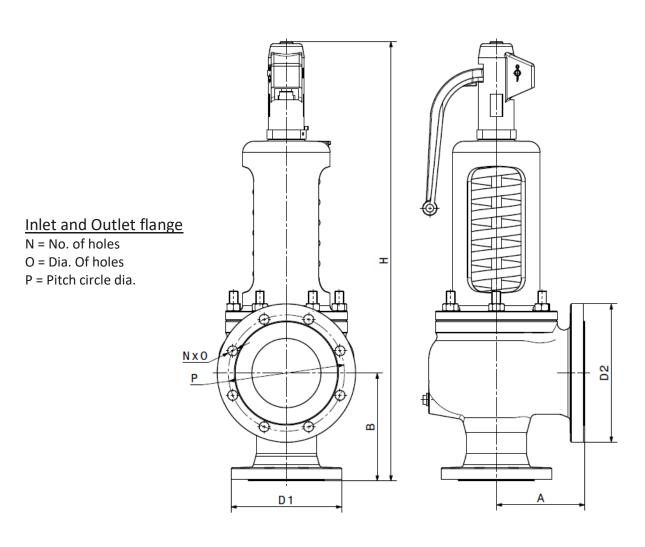
■ Cast iron Body Dimensions (approx.) in mm

Casti	I OII DO	ay Diiii	CHISIC	1115	appi	OX.) II									
				٧	'alve	Dime	nsions a	nd Stan	dard	of FI	ange				
Nominal	Inle	Inlet Flange (BS 4504 PN16)						Outlet Flange (BS 4504 PN16)							
size	Size	Raised Face	D1	N	0	Р	Size	Raised Face	D2	N	0	Р	Α	В	Н
1"	1" DN25	68 x 2	115	4	14	85	1 ½" DN40	88 x 3	150	4	18	110	100	105	430
1 ½"	1 ½" DN40	88 x 3	150	4	18	110	2 ½" DN65	122 x 3	185	4	18	145	115	140	555
2"	2" DN50	102 x 3	165	4	18	125	3" DN80	138 x 3	200	8	18	160	120	150	610
2 ½"	2 ½" DN65	122 x 2	185	4	18	145	4" DN100	158 x 3	220	8	18	180	140	170	735
3"	3" DN80	138 x 3	200	8	18	160	5" DN125	188 x 3	250	8	18	210	160	195	806
4"	4" DN100	158 x 2	220	8	18	180	6" DN150	212 x 2	285	8	22	240	180	220	930



Cast steel Body Dimensions (approx.) in mm

	tee. De			<u> </u>											
				Va	lve D	imens	sions ar	nd Stan	dard	of Fla	nge				
Nominal	Inle	Inlet Flange (BS 4504 PN40)						Outlet Flange (BS 4504 PN16)							
size	Size	Raised Face	D1	N	0	Р	Size	Raised Face	D2	N	0	Р	Α	В	Η
1"	1" DN25	68 x 2	115	4	14	85	1 ½" DN40	88 x 3	150	4	18	110	100	107	430
1 ½"	1 ½" DN40	88 x 3	150	4	18	110	2 ½" DN65	122 x 3	185	4	18	145	115	140	555
2"	2" DN50	102 x 3	165	4	18	125	3" DN80	138 x 3	200	8	18	160	120	150	610
2 ½"	2 ½" DN65	122 x 3	185	8	18	145	4" DN100	158 x 3	220	8	18	180	140	170	735
3"	3" DN80	138 x 3	200	8	18	160	5" DN125	188 x 3	250	8	18	210	160	196	807
4"	4" DN100	162 x 2	235	8	22	190	6" DN150	212 x 2	285	8	22	240	180	220	930





Capacities

Capacity for saturated steam and air in 10% over pressure

Cot			I satu	rated s	team		II Air at 0°C and 1.013 bar a					
Set	Capacities (kg/h)						Capacities (Nm³/h)					
pressure Bar g	DN	125	DI	N 40	DN50		DN65		DN	180	DN	100
Dai 8	1	Ш	1	Ш		Ш	1	Ш		Ш	- 1	Ш
2	477	607	1220	1550	1900	2425	3220	4100	4880	6210	7625	9700
2.5	572	731	1460	1870	2285	2925	3865	4945	5855	7490	9145	11700
3	662	850	1695	2175	2645	3400	4475	5750	6775	8700	10600	13600
4	837	1080	2140	2770	3350	4330	5650	7310	8570	11080	13400	17300
5	1000	1300	2565	3330	4000	5210	6770	8800	10260	13340	16000	20840
6	1165	1520	2990	3900	4665	6090	7890	10300	11950	15600	18650	24370
7	1330	1745	3400	4465	5320	6970	9000	11790	13600	17860	21300	27900
8	1495	1965	3820	5030	5980	7860	10100	13280	15300	20100	23900	31430
9	1660	2185	4245	5590	6630	8740	11200	14770	16950	22370	26500	34960
10	1820	2400	4665	6150	7290	9610	12300	16250	18650	24600	29150	38500
11	1985	2625	5080	6720	7940	10500	13400	17750	20300	26900	31750	42000
12	2150	2845	5500	7290	8590	11380	14500	19240	22000	29150	34350	45500
13	2310	3070	5920	7850	9250	12270	15600	20730	23650	31400	37000	49000
14	2475	3290	6340	8400	9900	13150	16700	22200	25350	33650	39600	52600
15	2640	3500	6760	8980	10550	14030	17800	23700	27000	35900	42200	56100
16	2800	3725	7170	9540	11200	14900	18950	25200	28700	38200	44800	59600
17	2965	3950	7590	10100	11850	15800	20050	26700	30350	40400	47400	63100
18	3130	4170	8010	10670	12500	16650	21150	28100	32050	42700	50100	66700
19	3295	4390	8430	11240	13150	17550	22250	29600	33700	44900	52700	70200
20	3460	4610	8850	11800	13800	18400	23350	31150	35400	47200	55300	73700
21	3620	4830	9250	12370	14500	19300	24500	32650	37100	49400	57900	77300
22	3790	5050	9700	12930	15150	20200	25600	34150	38800	51700	60600	80800

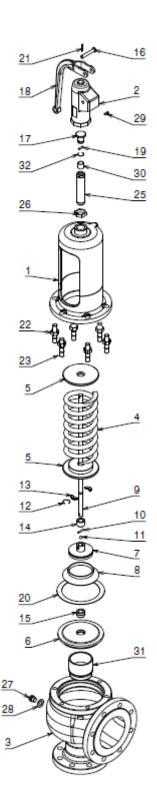
Pressure/temperature rating

Body material	Maximum set pressure	Maximum Temperature
Cast iron	16 bar	Up to 250 °C
Cast steel	22 bar	Up to 400 °C



Material

Item	Part name	Material			
1	Bonnet	Cast iron			
2	Сар	Cast iron			
3	Body	Cast steel Cast iron			
4	Spring	Alloy steel			
5	Plug	Stainless steel			
	المناسطات مستطاء	Stainless steel (1" to 2")			
6	Spindle guide	Cast iron (2 ½" to 4")			
7	Disc	Stainless steel			
8	Cone	Stainless steel			
9	Spindle	Stainless steel			
10	Pin	Steel			
11	Ball	Stainless steel			
12	Spindle key	Stainless steel			
13	Bushing	Stainless steel			
14	Washer	Stainless steel			
15	Bushing	Stainless steel			
16	Pin	Alloy steel			
17	Pin	Stainless steel			
18	Lever	Cast iron			
19	Pin	Steel			
20	Gasket				
21	Cotter pin	Steel			
22	Hexagon nut	Steel			
23	Stud	Steel			
24	Stud	Steel			
25	Adjusting screw	Stainless steel			
26	Lock nut	Stainless steel			
27	Screw	Stainless steel			
28	Washer	Copper			
29	Screw	Steel			
30	Bushing	PTFE			
31	Seal	Stainless steel			



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This valve is a carbon steel ball valve with a stainlesssteel ball, adaptor and housing, and reinforced PTFE seats designed for boiler blowdown applications. Cast iron for up to 10 bar rating and Bronze Gunmetal for 20 bar rating

This valve is available in the size of 1", 1 ¼ ", 1 ½ ", 2"

Key Operated Boiler
Blowdown valve



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Key Operated Boiler Blowdown Valve

Type BV 20

Description

The key operated boiler blowdown valve consists of a carbon steel ball valve with reinforced PTFE seats and a key operated mechanism in stainless steel. The key cannot be removed when the valve is open, to ensure compliance with boiler regulations. This valve is available in automatic and manual versions.



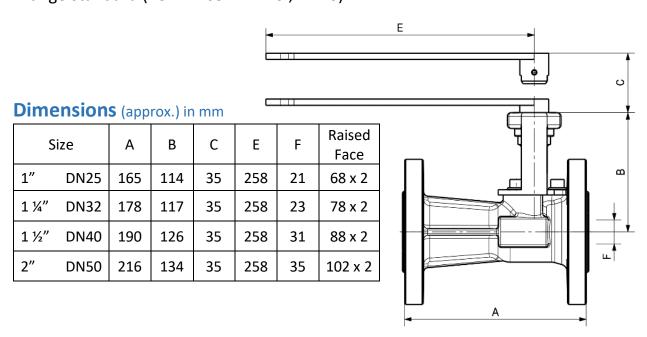
Applications

The valve is specifically designed for boiler blowdown applications.

The BV 20 is designed for the removal of suspended/deposited solids and water from the bottom of steam boilers.

Size and Pipe Connections

Flange standard (BS EN 1092: PN40, PN16)

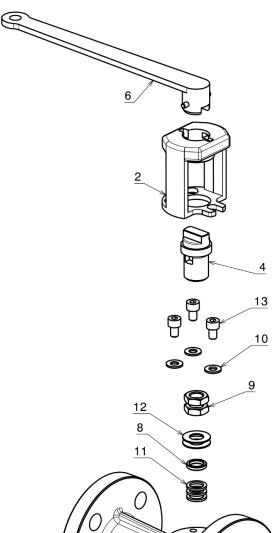




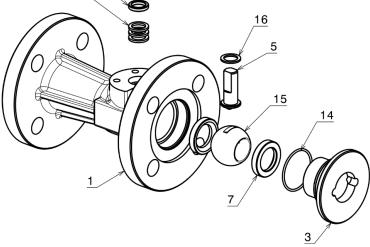
Limiting Conditions

Max. allowable pressure	17.25 bar g at 208°C
Cold hydraulic test pressure	60 bar g
Seat leakage test	6 bar g (air under water)

Material



Item	Part Name	Material	QTY.
1	Body	ASTM A216 WCB	1
2	Housing	Stainless Steel	1
3	Insert	Alloy Steel	1
4	Adaptor	Stainless Steel	1
5	Stem	Stainless Steel	1
6	Key	Stainless Steel	1
7	Seat	PTFE	2
8	Separator	Stainless Steel	1
9	Hex. Nut	Steel	2
10	Washer	Steel	3
11	Stem Seal	PTFE	3
12	Disc Spring Washer	Stainless Steel	2
13	Screw	Steel	3
14	0-ring	Viton	1
15	Ball	Stainless Steel	1
16	Stem Seal	PTFE	1



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These valves are an adaptation parallel slide valve which is designed to ensures ease of operation and tight closure. The material of the body is Bronze up to the maximum pressure of 10bar This valve is available in the size of 1", 1 ¼", 1 ½"

Parallel Slide Blowdown valve link type for small boilers



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Parallel Slide Blowdown Valve Link type for small boilers

Type BVA

Description

This valve is an adaptation parallel slide valve which is designed to ensure ease of operation and tight closure. The valve being suitable for flow in either direction. The valve opens with less than a quartet turn of the box-key.

A lever type box-key is supplied with each valve.



Applications

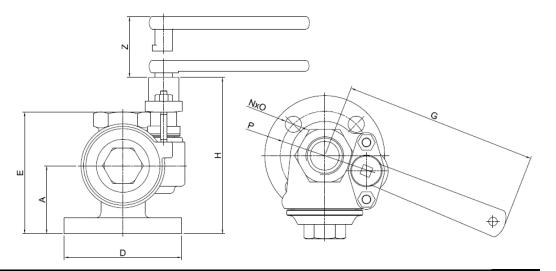
In boilers, blowdown valves removes both suspended solids and sludge from the surface and bottom respectively.

Size and Pipe Connections

Dimensions (approx.) in mm

		Valve Dimensions and Flange Standard											
	Connection												
Size	Inlet	Outlet	D	N	0	Р	G	Н	7	Α	E		
	Flange (BS 10 Table F)	Thread (Female)		IN	J	Г	J		۷	^	L		
DN25	1"	G 1"	121	4	18	87.5	170	170	30	74.5	125.5		
DN32	1 ¼"	G 1 ¼"	133	4	18	98.5	220	190	35	77	138		
DN40	1 ½"	G 1 ½"	140	4	18	105	220	190	35	77	138		

Inlet flange N = No. of holes O = Dia. Of holes P = Pitch circle dia.



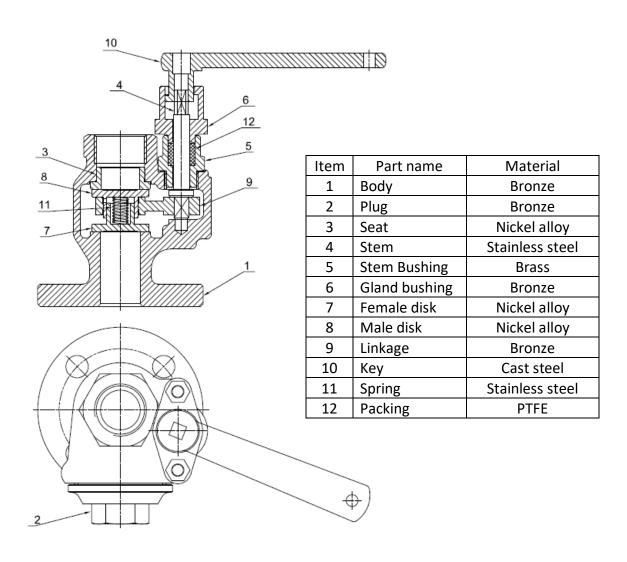


Limiting conditions

Pressure / temperature rating

Temperature (°C)	210
Max. Working pressure (bar)	12

Materials



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This key valve embodies the design advantages of the parallel slide gate valve. Easy operation of the rack and pinion mechanism is by means of a removable box key which requires only half a turn for full operation. LG2 for up to 10 bar rating and Bronze Gunmetal for 21 bar rating

This valve is available in the size of 2".

Parallel Slide Blowdown valve



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Parallel Slide Blowdown Valve

Type BVB

Description

This key valve embodies the design advantages of the parallel slide gate valve.

The valve is also recommended as an economizer blowdown valve.

Easy operation of the rack and pinion mechanism is by means of a removable box key which requires only half a turn for full operation.

Positive stops limit the rotary movement of the pinion and prevent straining of the rack/pinion teeth.

A guard is incorporated on the gland to prevent removal of the box key unless the valve is in the closed position.

Joints and gland packings are of exfoliated graphite.



Applications

In boilers, blowdown valves removes both suspended solids and sludge from the surface and bottom respectively.

Limiting conditions

Pressure / temperature rating

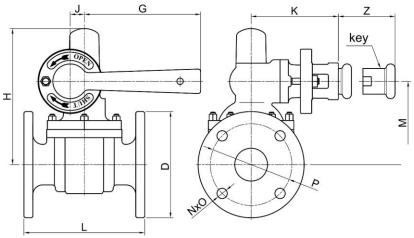
Flange Standard	BS 4504 PN16	BS 4504 PN40	BS 10 Table F	BS 10 Table H
Temperature (°C)	240	200	210	200
Max. Working pressure (bar)	12	21	12	21



Size and pipe connections

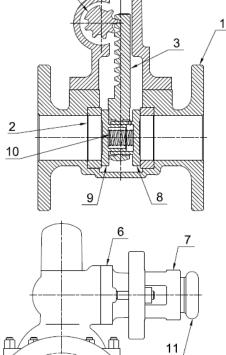
Dimensions (approx.) in mm

Body material	Size	Flange Standard	D	N	0	Р	L	Н	М	J	K	G	Z
Bronze (150psi)	2" DN50	BS 10 Table F	165	4	18	127	208	215	130	22	145	200	60
Gunmetal (300 psi)	2" DN50	BS 10 Table H	165	4	18	127	212	215	130	22	145	200	60





Item	Part name	Material				
1	Body	Bronze	Gunmetal			
2	Seat	Nickel alloy				
3	Rack	Gunmetal				
4	Pinion	Gunmetal				
5	Bonnet	Bronze	Gunmetal			
6	Packing bushing	Bro	onze			
7	Gland bushing	Bro	onze			
8	Female disk	Nicke	el alloy			
9	Male disk	Nicke	el alloy			
10	Spring	Stainle	ess steel			
11	Key	Cast iron				



5

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water level controller is a comprehensive range of magnetically operated water level controls.

Water Level Controller BX



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Water Level Controller

Type BX (Chamber Mounted Models)

Description

BX water level controller is a comprehensive range of magnetically operated water level controls.

They are designed to meet all the requirements for automatic on/off control of boiler feed pump, burner cut-out, high and/or low level alarm or any combination of these.



Cast steel Chamber

Operation

A primary permanent magnet attached to the float rod slides vertically inside a non-magnetic stainless steel center tube and transmits the movements of the float to a secondary magnet in each switch unit.

There are two pairs of contacts which are operated with A snap action and held by repulsion between the secondary magnet and the tertiary magnet of the switch unit assembly.



Cast iron Chamber

Limiting conditions

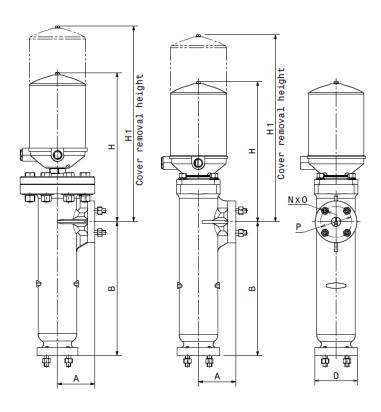
Maximum working pressure for the Cast iron material is 10 bar and for the Cast steel material is 20 bar.



Dimensions and pipe connections

Dimensions (approx.) in mm

			0		Dimensions									
Size Chamber material		number '	Operating Range	No. of switches	Flanged connections (Inlet and outlet)			А	В	Н	H1			
			(mm)		D	N	0	Р						
	Cast	BX 02/1	62	1	BS	BS 4504 (PN16)		5)	102	266	295	405		
1"	iron	BX 05/2	150	2	115	115 4 M12 8		85	102	366	395	600		
DN25	Cast	BX 09/1	62	1	BS	BS 4504 (PN4		BS 4504 (PN40)		0)	102	266	315	425
	steel	BX 10/2	150	2	115	4	M12	85	101	366	415	620		



Bottom and Side Connection

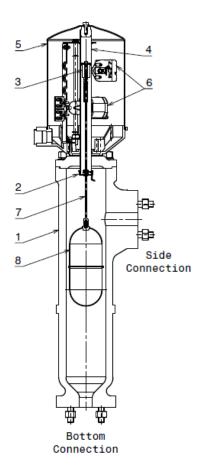
N = No. of tapped holes

O = Thread size

P = Pitch circle dia.

Material

Item	Part name	Material			
1	Chamber	Cast iron Cast ste			
2	Stop cap	Stainless Steel			
3	Magnet	-			
4	Center tube	Stainless Steel			
5	Switch head	Aluminum			
6	Switch units	Cast ceramic			
7	Float road	Stainless Steel			
8	Float	Stainless Steel			



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water level controller is a comprehensive range of magnetically operated water level controls.

Water Level Controller BD



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Water Level Controller

Type BD (Direct Mounted Models)

Description

BD water level controller is a comprehensive range of magnetically operated water level controls.

They are designed to meet all the requirements for automatic on/off control of boiler feed pump, burner cut-out, high and/or low level alarm or any combination of these Direct Mounted Vertical Air Brake Controls employ The same principles of operation and piece parts as The chamber mounted equivalents except that the chamber is exchanged for a large round flange and the tube assembly for mounting the control directly on to the boiler shell connection.







Operation

A primary permanent magnet attached to the float rod slides vertically inside a non-magnetic stainless-steel center tube and transmits the movements of the float to a secondary magnet in each switch unit.

There are two pairs of contacts which are operated with a snap action and held by repulsion between the secondary magnet and the tertiary magnet of the switch unit assembly.

Limiting conditions

Maximum working pressure is 20 bar.

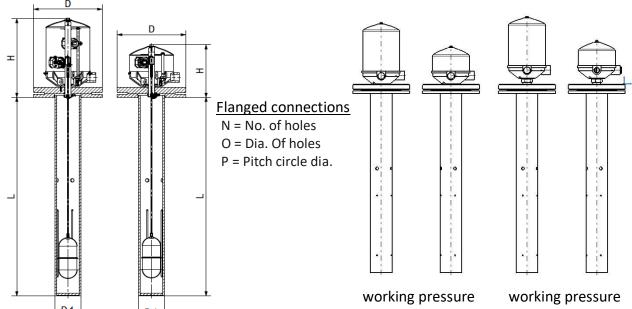


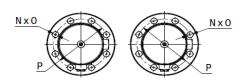
Dimensions and pipe connections

Dimensions (approx.) in mm

	Maximum			Dimensions							
Type number	working pressure at	Operating Range	inge No. of		nged co 3S 4504			L*	Н	D1	
saturated steam (bar)	(mm)		D	N	0	Р	_				
BD 01/1	12	62	1						200		
BD 01/1	20	02	1	235	8	22	190	_	200	89	
BD 02/2	12	150	2	233	٥	22	190	_	300	03	
BD 02/2	20	130	2						300		

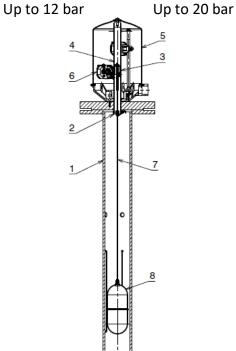
^{*} The Dimensions Can Be Changed According To The Installation Conditions.





Material

Item	Part name	Material
1	Flange	St 52
2	Stop cap	Stainless Steel
3	Magnet	-
4	Center tube	Stainless Steel
5	Switch head	Aluminum
6	Switch units	Cast ceramic
7	Float road	Stainless Steel
8	Float	Stainless Steel



Eshteal Arak Industrial Engineering Company is the only manufacturer of high-capacity rotary cup burners in the country, and these burners are used by all boiler companies in the country . Among the unique products produced by this company are power valves that are designed for saturated and superheated steam lines. This product was prouced for the first time in the country in 2014 in the Mobarake steel complex and at a pressure of 70 bar It has been used successfully Eshteal Arak Industrial Engineering Company has been modernizing its production lines since 2003 and is currently equipped with more than 98 machines, 61 of which are CNC lathes and milling centers (referred to at the end), stepped into the field of producing products with modern sophisticated technology It should be mentioned that this company has succeeded in obtaining the knowledge-based badge on burners and valves during two consecutive periods, and in order to enhance the brand and satisfy customers, the necessary standards such as ISIRI 7595, ISIRI 7594, ISO 3834, ISO 9001:2015 and implemented 5S



The sequencing valve is designed to function as a combined water isolating valve and a sequencing valve to provide positive purging of the water connection float chamber and steam connection of a boiler control. Blowdown of float chamber and connections is effected separately and in a pre-determined sequence by the operation of the single specially designed handwheel Cast iron for up to 10 bar rating and Bronze Gunmetal or 20 bar rating

Sequencing Blowdown valve





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Sequencing blowdown valve

Type SPV

Description

The sequencing valve is designed to function as a combined water isolating valve and a sequencing valve to provide positive purging of the water connection, float chamber and steam connection of a boiler control. Blowdown of float chamber and connections are affected separately and in a pre-determined sequence by the operation of the single specially designed hand wheel.



Function

Steam boiler external level control chamber isolation and purge.

Features

One valve to provide separate blowdown of:

- Control Chamber
- Steam Connection
- Water Connection

Limiting conditions

Maximum working pressure for the Cast iron material is 10 bar and for the Gunmetal material is 20 bar.





Size and pipe connections

Dimensions (approx.) in mm

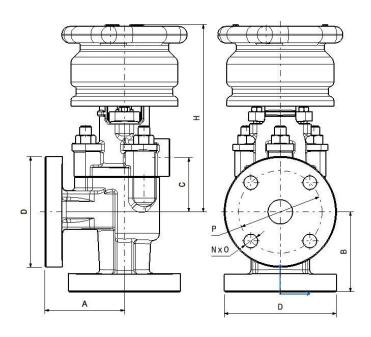
Size	Body	Flange	D	N	0	Р	Α	В	Н	С	Raised
	material	connections									Face
Cast iron		BS 4504 PN16	115	4	14	85	83	83	219	54	65 x 2
1"	Cast II OII	(Inlet and outlet)	113	4	14	85	65	65	219	54	03 7 2
DN25		BS 4504 PN40	115	1	14	85	83	83	219	54	68 x 2
	Gunmetal	(Inlet and outlet)	113	4	14	65	03	03	219	54	00 X Z

Inlet and Outlet flange

N = No. of holes

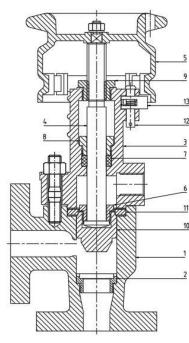
O = Dia. of holes

P = Pitch circle dia.



Material

Item	Part Name	Ma	terial		
1	Water Leg	Cast iron	Gunmetal		
2	Water Leg valve seat	Stainle	ess steel		
3	Stuffing box	Cast iron	Gunmetal		
4	Spindle	Stainless steel			
5	Hand wheel	Aluminum			
6	Retaining nut	Stainless steel			
7	Gland packing	Teflon	packing		
8	Gland follower	Stainle	ess steel		
9	ACME THRD nut	Ві	rass		
10	Valve Lid	Nickel alloy			
11	Blow down seat	Nickel alloy			
12	Split pin	Steel			



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magnetic level gauges are used for continuous display of the filling level. A magnetic float transmits the level to an indicator consisting of magnetic rollers or flaps. Accessories such as magnetic switches can be fitted to the chambers as additional accessories..

The body of this surface is made of stainless steel and its floater is made of titanium, which is designed for pressures of 10 bar and 20 bar

Magnetic Liquid Level
Gage



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Magnetic Liquid Level Gauge

Type MLG with BVL Valve

Description

A communicating bypass chamber is flanged to the side of a vessel, and as the liquid level in the tank rises or falls, a float with a built-in magnetic system inside the chamber rises or falls with it. The chamber is completely sealed so that the only moving part of the apparatus in contact with the liquid is the float itself On the, dry side of the chamber is the magnetic Roller Display, a column of magnetic rollers which are white on one side and red on the other. As the float moves up or down the bunched field of the permanent magnet mounted in its top section ,pulls the rollers through a rotation of 180°, thus changing their color.

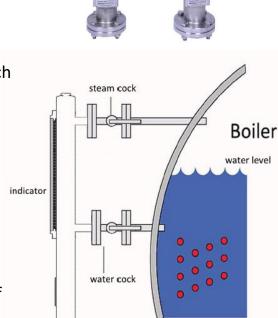
As the float rises the rollers are turned from

This means that at any given time the amount of liquid in the tank is constantly represented by a red column without any external power supply. As options the following devices can be attached

white to red, and as the float falls, they are

changed back to white again.

to a Magnetic Level Sensors to control the level of the liquid.



Drain cock

Float design according to process parameters S.G., pressure and temperature

Applications

The magnetic level gauge is a suitable tool for monitoring the liquid level in a vessel.



Dimensions and pipe connections

Dimensions (approx.) in mm

Connection Size	Α	В	С	H*	D	N	0	Р	Raised Face
3/4" DN20	107	100	225	457 or 380	115	4	19	82.6	44 x 4
1" DN25	107	100	233	457 01 360	113	4	19	82.0	62 x 4

- * The Dimensions Can Be Changed According To The Installation Conditions.
- Max. Working pressure 20 bar

Connection

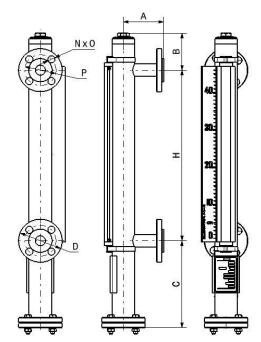
N = No. of holes

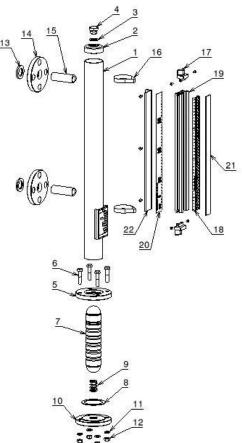
O = Dia. of holes

P = Pitch circle dia.



Item	Part name	Material
1	Body	Stainless steel
2	Bonnet	Stainless steel
3	Washer	Steel
4	Screw	Stainless steel
5	Drain flange 2	Stainless steel
6	Screw	Steel
7	Floater	Stainless steel
8	Gasket	Compressed fiber
9	Spring	Stainless steel
10	Drain flange 1	Stainless steel
11	Spring washer	Steel
12	Nut	Steel
13	Washer	Stainless steel
14	Connection	Stainless steel
15	Pipe	Stainless steel
16	Clamp band	Stainless steel
17	Profile support	Aluminum
18	Flag	Aluminum
19	Profile 1	Aluminum
20	Line gauge	Stainless steel
21	Glass	Glass
22	Profile 2	Aluminum







Ball Valve

Type BVL

Construction

Three Pieces Bolted Construction-Solid Ball Anti-Blow Out Proof Stem Design-Soft Seats

Temperature: Up to +260°C



Size L C H D N O P
3/4" DN20 170 170 90 117 4 19 82.6

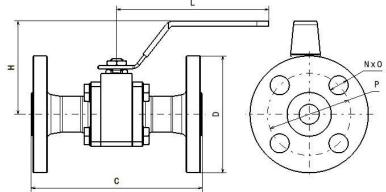


Inlet and Outlet flange

N = No. of holes

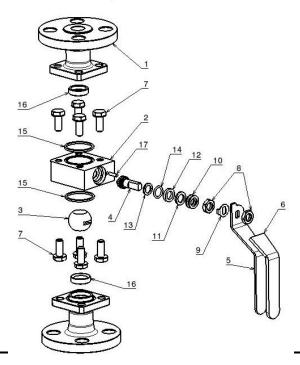
O = Dia. of holes

P = Pitch circle dia.



Material

Item	Part Name	Material		
1	Flange	Stainless Steel		
2	Body	Stainless Steel		
3	Ball	Stainless Steel		
4	Spindle	Stainless Steel		
5	Lever	Stainless Steel		
6	Lever Cover	-		
7	Hexagon Screw	-		
8	Hexagon Nut	Stainless Steel		
9	Lock Nut	Stainless Steel		
10	Washer	Stainless Steel		
11	Washer	Stainless Steel		
12	Packing	PTFE		
13	Gasket	PTFE		
14	Gasket	Viton		
15	Packing	PTFE		
16	Seat	PTFE		
17	Pine	Stainless Steel		



Eshteal Arak Industrial Engineering Company is the only manufacturer of high-capacity rotary cup burners in the country, and these burners are used by all boiler companies in the country. Among the unique products produced by this company are power valves that are designed for saturated and superheated steam lines. This product was prouced for the first time in the country in 2014 in the Mobarake steel complex and at a pressure of 70 bar It has been used successfully Eshteal Arak Industrial Engineering Company has been modernizing its production lines since 2003 and is currently equipped with more than 98 machines, 61 of which are CNC lathes and milling centers (referred to at the end), stepped into the field of producing products with modern sophisticated technology It should be mentioned that this company has succeeded in obtaining the knowledge-based badge on burners and valves during two consecutive periods, and in order to enhance the brand and satisfy customers, the necessary standards such as ISIRI 7595, ISIRI 7594, ISO 3834, ISO 9001:2015 and implemented 5S



The valves in this range are ideally suitable for boiler stop valve and also general purpose stop/regulating valve duties. The material of the body is Cast Iron up to the maximum pressure of 13bar and Cast Steel up to the maximum pressure of 21bar.

This valve is available in the sizes of 2½", 3", 4", 14", 10", 8", 7", 5"

Globe Stop valve



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Globe stop valve

Type CGV

Description

The combination of simple design, high quality materials and high standard of production results in an easily maintained valve, capable of long and efficient service under high load conditions.

Applications

The valve in this range is ideally suitable for boiler stop valve and also general-purpose stop/regulating valve duties.



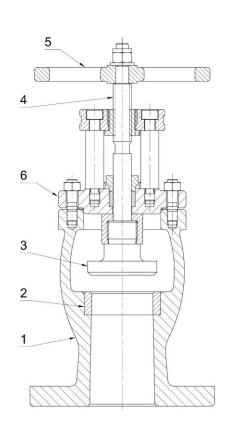
Limiting conditions

Pressure / temperature rating

Flange Standard	BS 10 Table F	BS 10 Table H		
Temperature (°C)	210	200		
Max. Working pressure (bar)	11	20		

Materials

Item	Part Name	Material				
1	Body	Cast steel Cast Iron				
2	Seat	Stainless steel				
3	Disc	Bronze				
4	Stem	Stainless steel				
5	Hand wheel	Cast iron				
6	Bonnet	ST52				

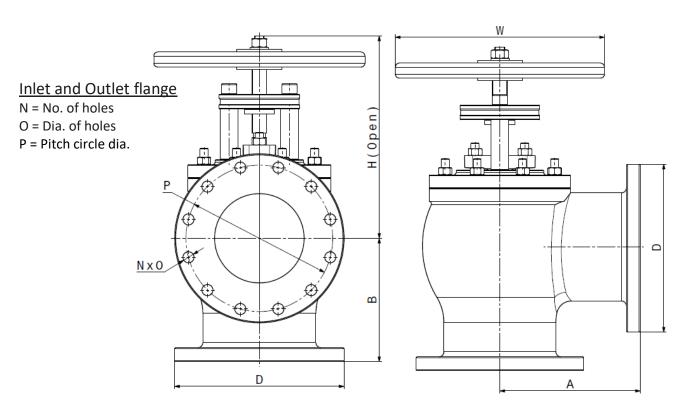




Size and pipe connections

Dimensions (approx.) in mm

		Dimensions and Standard of Flange									
Body	BS 10 Table F (Inlet and outlet)										
material	9	Size	Raised	D	N	0	Р	Α	В	W	Н
			Face		. '\					V V	''
	2 ½"	DN65	-	184	8	18	146	148	148	190	300
	3"	DN80	-	203	8	18	165	180	156	190	350
Cast	4"	DN100	-	229	8	18	191	173	181	215	360
iron	5"	DN125	-	280	8	22	235	203	203	215	465
	7"	DN175	-	337	12	22	292	285	267	565	585
	8"	DN200	-	368	12	22	324	303	289	565	650
	BS 10 Table H (Inlet and outlet)										
	2 ½"	DN65	114 x 0.8	184	8	18	146	148	148	190	300
	3"	DN80	127 x 0.8	203	8	18	165	180	156	190	350
Cast	4"	DN100	152 x 0.8	229	8	18	191	173	181	215	360
steel	5"	DN125	178 x 0.8	280	8	22	235	203	203	215	465
31661	7"	DN175	235 x 0.8	337	12	22	292	285	267	565	585
	8"	DN200	260 x 0.8	368	12	22	324	303	289	565	650
	10"	DN250	311 x 0.8	432	12	24	381	360	347	565	715
	14"	DN350	419 x 0.8	552	16	26	495	428	428	565	1030



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This valve comprises two valves, a stop valve and a check valve. Feed Check Valves are one of the most important components of boiler which control the flow of water from feed pump to the boiler and further prevents the backflow of water from boiler to pump when the boiler pressure is more than the pump pressure or when feed pump stops working.

The material of the body is Cast Iron up to the maximum pressure of 11bar and Cast Steel up to the maximum pressure of 25bar.

This valve is available in the sizes of 1", 1 ½ ", 2", 3"

Feed Check Valve



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Feed check valve

Type FCV

Description

This unit comprises two valves, a stop valve and a check valve. An important feature of the design is the accessibility of the check valve which can be examined, by removing the inlet straight bottom part.



Applications

Feed Check Valve is one of the most important components of boiler which controls the flow of water from feed pump to the boiler and further prevents the backflow of water from boiler to pump when the boiler pressure is more

than the pump pressure or when feed pump stops working.

Size and Pipe Connections

Dimensions (approx.) in mm

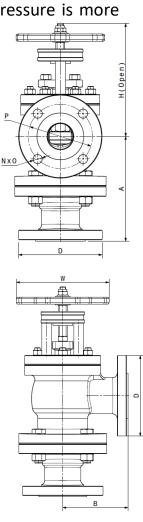
V 11 /											
	Dimensions and Standard of Flange										
Body material	BS 10 Table F (Inlet and outlet)										
	Size	Raised Face	D	N	0	Р	Α	В	W	Н	
Bronze	1"	-	121	4	18	87.5	186	82	100	230	
	1 ½"	-	140	4	18	105	189	128	190	315	
Cast iron	2"	-	165	4	18	127	206	132	190	330	
	3"	-	203	8	18	165	267	154	240	415	
	BS 10 Table H (Inlet and outlet)										
Cast steel	1 ½"	83 x 0.8	140	4	18	105	193	128	190	315	
	2"	102 x 0.8	165	4	18	127	212	138	190	330	
	3"	127 x 0.8	203	8	18	165	274	160	240	415	

Inlet and Outlet flange

N = No. of holes

O = Dia. of holes

P = Pitch circle dia.





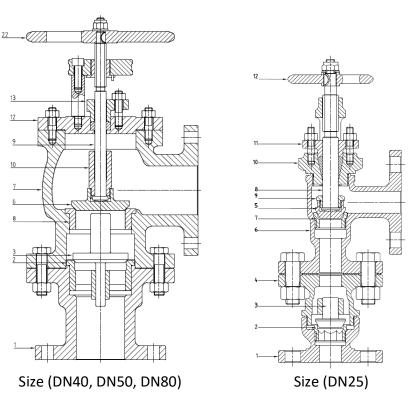
Limiting conditions

Pressure / temperature rating

Body material	Bronze	Cast iron	Cast steel
Temperature (°C)	220	210	200
Max. Working pressure (bar)	10	11	20

Materials

Item	Part Name	Body material					
iteiii	Part Name	Bronze	Cast iron	Cast steel			
1	Check valve body	Bronze	Cast iron	Cast steel			
2	Check valve seat ring	Stainless steel	Nickel alloy	Nickel alloy			
3	Check valve Disc	Stainless steel	Stainless steel	Stainless steel			
4	Check valve bonnet	Bronze	-	-			
5	Feed valve Disc	Stainless steel	Stainless steel	Stainless steel			
6	Feed valve body	Bronze	Cast iron	Cast steel			
7	Feed valve seat ring	Stainless steel	Stainless steel	Stainless steel			
8	Stem	Brass	Stainless steel	Stainless steel			
9	Disc nut	Brass	Brass	Brass			
10	Feed valve bonnet	Bronze	ST 52	ST 52			
11	Gland flange	Bronze	Bronze	Bronze			
12	Hand wheel	Cast iron	Cast iron	Cast iron			



52

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The EDCV disc check valve is of the wafer pattern designed to be sandwiched between flanges.

Disc Check Valve



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Disc check valve

Type EDCV

Description

The EDCV disc check valve is of the wafer pattern designed to be sandwiched between flanges. It is suitable for use on a wide range of fluids for applications in process lines, hot water systems, steam and condensate systems etc.

Designed and manufactured in accordance with BS 7438.









Size and Pipe Connections

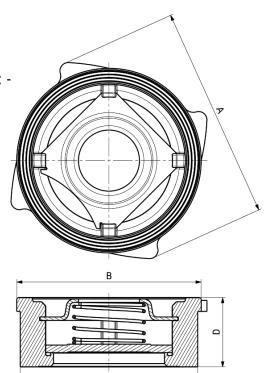
DN 25, 40, 50, 80

EDCV can be fitted between BS 10 Tables 'E' and 'H'; BS 4504/ (DIN) PN6, 10, 16, 25, 40;

JIS 5, 10, 16, 20 flanges with the following exception: - DN 40, 50 and 80 – will not fit between JIS 5 flanges DN 80 – will not fit between BS 10 'E' flanges.

Dimensions (approx.) in mm

S	ize	Α	В	С	D
1"	DN25	80.5	63	55	22
1 ½"	DN40	101	85	79	31.5
2"	DN50	115	95	93	40
3"	DN80	154	133	128	50



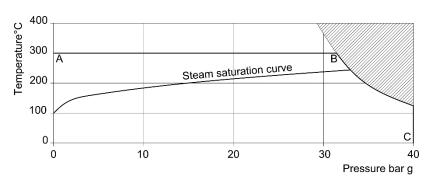


Limiting conditions

Maximum body design conditions	PN40
PMO - Maximum operating pressure	40 bar g
TMO - Maximum operating temperature	300°C
Minimum operating temperature	-50°C
Maximum cold hydraulic test pressure	60 bar g

Operating range

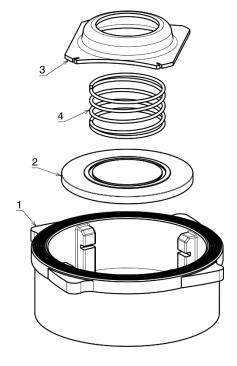
EDCV (A - B - C -)



This product must not be used in this region.

Materials

Item	Part Name	Material
1	Body	Stainless steel
2	Disc	Stainless steel
3	Spring retainer	Stainless steel
4	Spring	Stainless steel



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This valve can be supplied as a Tester valve with elbow removed and outlet tapped 3/8 Rp* and plugged. This valve can be supplied as an Air valve or Tester valve with inlet screwed male and outlet tapped and plugged

Air & Tester valve



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Air & Tester valves

Type SDV

Description

This valve can be supplied as a Tester valve with elbow removed and outlet tapped 3/8" and plugged. It can also be supplied with outlet fitted with adaptor and tailpipe tapped 1/4".



Applications

In the boilers this valve used as the main valve on the way of pressure switch.

Size and Pipe Connections

Inlet flange connections: BS 10 Tables F, H

Dimensions (approx.) in mm

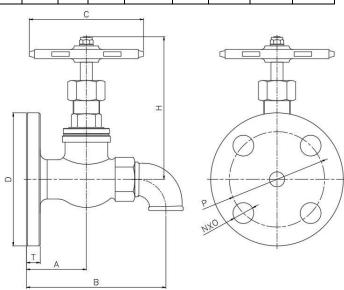
Size	D	Mater	ial	Т	Ν	0	Р	Α	В	С	Н
	95	Bronze	150psi	12	4	14	65				
1/2"	95	Gunmetal	300psi	14	4	14	03		107	100	125
/2	115	Bronze	150psi	12	4	14	82.5	52	107		125
	113	Gunmetal	300psi	14	4	14	62.5				

Inlet and Outlet flange

N = No. of holes

O = Dia. of holes

P = Pitch circle dia.



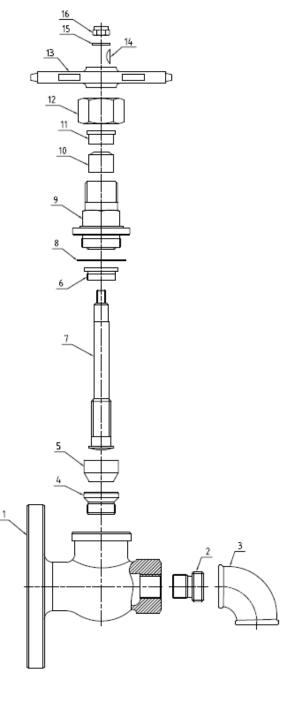


Pressure/temperature rating

Temperature (°C)	Saturated Steam temp.
Max. Working pressure (bar)	24

Material

Item	Part name	Ma	terial
1	Body	Bronze	Gunmetal
2	Connector	S	teel
3	Elbow	Cas	t iron
4	Seat ring	Stainle	ess steel
5	Disc	Stainle	ess steel
6	Disc Nut	В	rass
7	Stem	В	rass
8	Washer	Co	pper
9	Stem bushing	В	rass
10	Packing	Р	TFE
11	Packing flange	В	rass
12	Stem bushing nut	В	rass
13	Hand Wheel	Cas	t iron
14	Woodruff key	S	teel
15	Washer	S	teel
16	Nut	S	teel



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The 'Absolute' liquid level gauge is suitable for use with a variety of liquids on pressure vessels, tanks etc., in many industries. The gauge is automatic in top and bottom arms. In the event of the gauge glass breaking both the vapour and the liquid are automatically shut of by means of a ball in each arm.

Absolute Liquid Level
Gauge



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Absolute Liquid Level Gauge

Type LGV



Absolute Liquid Level Gauge offer an easy and cost-effective Way to indicate liquid levels. They are perfect for low pressure, non-hazardous applications.

The gauge is automatic in top and bottom arms. In the event Of the gauge glass breaking both the vapour and the liquid are automatically shut of by means of a ball in each arm. There is no possibility of trapping false liquid levels, as the use of a large ball valve in the water arm ensures its opening against the head of liquid in the vessel.



Applications

The Absolute liquid level gauge is suitable for use with a variety of liquids on pressure vessels, tanks etc., in many industries.

Limiting conditions

Maximum working pressure for the Bronze material is 12 bar and for the Gunmetal material is 20 bar.



Dimensions and pipe connections

Dimensions (approx.) in mm

Size	Material		Fl	anged	l conn	ectio	ns		Α	В	E	
Size	(Bottom arm body)	D	R	S	Т	N	0	Р	А	D		L
1/2"	Bronze	95	28	3	12	4	14	66.5	83	135	82.5	110
1/2	Bronze	115	28	3	12	4	14	82.5	83	135	82.5	110
3/4"	Bronze	115	28	3	12	4	18	82.5	83	135	82.5	110
3/4	Gunmetal	115	28	3	14	4	18	82.5	83	135	82.5	110

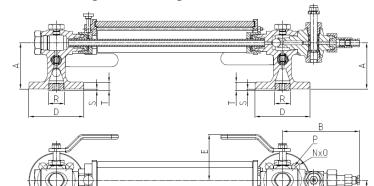
■ The Dimension 'C' Can Be Changed According to The Installation Conditions.

Connection

N = No. of holes

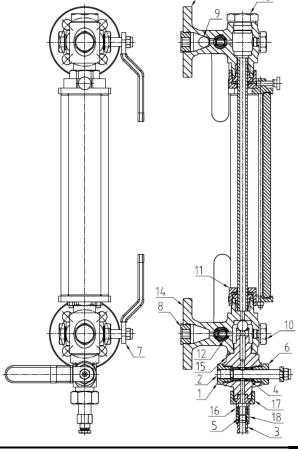
O = Dia. of holes

P = Pitch circle dia.



Material

Item	Part name	Material
1	Stem positioner nut	Brass
2	Stem	Stainless steel
3	Drain pipe fitting nut	Brass
4	Packing	PTFE
5	Olvis	Stainless steel
6	Packing nut	Brass
7	Handle	Steel
8	Bottom plug	Brass
9	Ball	Steel
10	Top plug	Brass
11	Gage glass packing nut	Brass
12	Pin	Stainless steel
13	End plug	Brass
14	Dattam arm hadu	Bronze
14	Bottom arm body	Gunmetal
15	Try valve body	Bronze
16	Try valve fitting	Brass
17	Try valve fitting nut	Brass
18	Drain pipe nut	Brass



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Use conductivity transmitters ETC only for measuring the electrical conductivity in liquids. When used for conductivity limiting or continuous boiler blowdown in steam boilers. The compact-design conductivity transmitter ETC consists of a conductivity electrode a temperature sensor for detecting the fluid temperature and a conductivity transmitting unit incoporated in the terminal box. the conductivity transmitter ETC works according to the conductometric measuring method using four measuring electrodes. The equipment measures the conductivity of electrically conductive fluids (TDS content) and provides current output (4-20 mA) or relay output as a function of the detected conductivity value.

Service pressure: PN 40, 32 bar at 238°C

Conductivity Transmitter ETC



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Conductivity transmitter

Type ETC 19-1

Description

The compact-design conductivity transmitter ETC 19-1 consists of a conductivity electrode, a temperature sensor for detecting the fluid temperature and a conductivity transmitter unit incorporated in the terminal box.

ETC 19-1 works according to the conductometric measuring method using four measuring electrodes. The equipment measures the electrical conductivity of electrically conductive fluids (TDS = Total Dissolved Solids content) and provides a 4-20 mA measuring current as a function of the detected conductivity value.



Applications

The conductivity transmitter ETC 19-1 is mainly used in industrial boiler plants operating with pressures up to PN40 and max. admissible conductivities acc. to TRD/EN of $6000~\mu\text{S/cm}$.

Technical data

•Service pressure

PN 40, 32 bar at 238°C

• Mechanical connection

Screwed G 1" A, ISO 228

Materials

Screw-in body: 1.4571, X6CrNiMoTi17-12-2

Electrode rod insulation: PTFE Terminal box: 3.2161 G AlSi8Cu3

Spacer discs: PTFE/PEEK

• Temperature sensor

Resistance thermometer Pt 1000



Technical data - continued -

- Electronic circuit board supply voltage
- **24 VDC**
- Power consumption
- 4.5 W
- Fuse

Electronic thermal fuse $T_{max} = 85$ °C,

Hysteresis -2 K.

•Temperature sensor

Resistance thermometer Pt 1000

Measuring cycle

1 sec.

- •Indicators and adjusters
- Two LEDs for status messages
- One 10-pole code switch for setting
- measuring range

- temperature coefficient
- cell constant
- functional test

Output

- 4 20 mA, proportional to conductivity and free relay contacts
- •Max. Admissible ambient temperature

Max. 70 °C

- •Storage and transport temperature
- $-40 \text{ to} + 80 \,^{\circ}\text{C}$

Dimension

Dimensions (approx.) in mm

Approvals: E.P.I.L Co

Acc. to: IEC 61000-4-2

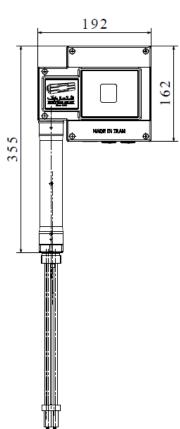
IEC 61000-4-3

IEC 61000-4-8

IEC 60068-2-78

IEC 60068-2-1

IEC 60068-2-2



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The compact system ELE works according to the conductivity measurement principle. With the ELE a maximum of 4 levels can be signalled in conductive liquids: MAX alarm, MIN a The conductivity measurement method can detect two conditions: electrode rod submerged/ exposed or switchpoint reached/not reached. Before installation, the length of the electrode rod must be adapted to the switching levels, e. g. for max./min. alarm, controlling of a valve or pump larm, pump ON pump OFF with one switchpoint each. Service pressure: 32 bar at 238°C

Level electrode ELE



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level electrode

Type ELE 20-1

Description

The ELE 20-1 is a compact-type system consisting of a level electrode with four tips. For the correct functioning of the equipment the water must have a minimum conductivity of > 25 $\mu S/cm$ at 25 °C. The lengths of the associated electrode rods determine the switch points for water level control and MIN / MAX water level. The equipment detects whether the electrode tips are exposed or immersed and activates the associated relay output contact accordingly.

Applications

The compact system is used as water level controller, for instance in steam boilers, (pressurized) hot-water installations as well as condensate and feed water collecting tanks.

Technical data

Service pressure

PN 40, 32 bar at 238°C

Mechanical connection

Screwed G 1" A, ISO 228

Materials

Screw-in body: 1.4571, X6CrNiMoTi17-12-2

Sheath 1.4301 X5 CrNi18-10

Screw-in body 1.4571 X6 CrNiMoTi17-12-2

Flange 1.0460 C 22.8

Electrode tips 1.4571 X6 CrNiMoTi17-12-2

Insulation PTFE
Spacer disc PTFE



Technical data - continued -

Power consumption

5 VA

Supply voltage

24 VDC

Fuse

External 500 mA, for 24 V.

Internal thermal fuse $T_{max} = 102 \, ^{\circ}C$

• Electrode voltage

 $10 \, \mathrm{V_{ss}}$

•Indicators and adjusters

3 red LEDs for signalling "Level 0 %" within the measuring range.

3 green LEDs for signalling "Normal Range" within the measuring range.

4 orange LEDs for signalling "Level 100 %" within the measuring range.

Output

4 volt-free change-over contacts, 8 A 250 V AC / 30 V DC

 $\cos \phi = 1$.

•Max. Admissible ambient temperature

Max. 70 °C

•Storage and transport temperature

$$-20 \text{ to} + 80 \,^{\circ}\text{C}$$

Dimension

Dimensions (approx.) in mm

Lengths supplied (L) = 500, 1000, 1500

Approvals: E.P.I.L Co

Acc. to: IEC 61000-4-2

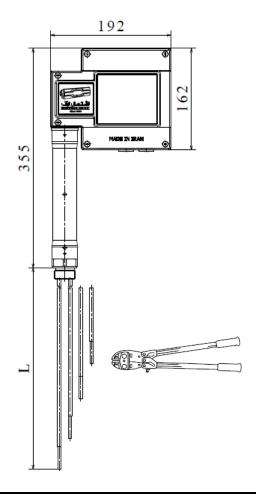
IEC 61000-4-3

IEC 61000-4-8

IEC 60068-2-78

IEC 60068-2-1

IEC 60068-2-2



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The level transmitters ELC are used for continuous level monitoring in steam boilers and (pressurized) hot-water installations or in condensate and feed water tanks. The level transmitter can be used in electrically conductive and non-conductive fluids. The level transmitter ELC works according to the capacitance measurement principle and translates the level changes into a level-dependent current signal of 4-20 mA, with the length of the electroderod determining the measuring range. The level transmitter is installed inside steam boilers, vessels or in an external level pot Service pressure: PN 40, 32 bar at 238°C

Level transmitterELC



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level transmitter

Type ELC 19-1

Description

The level transmitter works according to the capacitance measurement principle and translates the level changes into a level-dependent current signal of 4-20 mA, with the length of the electrode rod determining the measuring range. The level transmitter is installed inside steam boilers, vessels or in an external level pot. If the equipment is installed inside the boiler or vessel, a protection tube provided on side ensures correct functioning.



Applications

The level transmitter ELC 19-1 is used for continuous level monitoring in steam boilers and (pressurized) hot-water installations or in condensate and feed water tanks.

Technical data

• Service pressure

PN 40, 32 bar at 238°C

Mechanical connection

Screwed G 3/4" A, ISO 228

Materials

Screw-in body: 1.4571, X6CrNiMoTi17-12-2

Electrode rod insulation: PTFE Terminal box: 3.2161 G AlSi8Cu3

• Electronic circuit board supply voltage

24 V DC

•Power consumption

3 VA at 24 V DC



Fuse

External slow-blow 0.5 A

Internal thermal fuse $T_{max} = 102^{\circ}C$

Sensitivity of response

Range 1: Water $\geq 20 \mu \text{S/cm}$ Range 2: Water $\geq 0.5 \mu \text{S/cm}$

Range 3: Fuel oil EL, dielectric constant ε_r 2, 3

Output

Actual value output 4 - 20 mA, level proportional.

Technical data - continued -

Indicators and adjusters

2 red LEDs for signalling "Level 0 %" within the measuring range.

2 orange LEDs for signalling "Level 100 %" within the measuring range,

6 green LED for signalling "Level between 0 % and 100%" of measuring range.

1 Selector switch for measuring range

2 adjustable resistors for small-percentage adjustment of the measuring range.

2 terminal lugs for voltage measurement.

- •Max. Admissible ambient temperature Max. 70 °C
- •Storage and transport temperature

 $-40 \text{ to} + 80 \,^{\circ}\text{C}$

Dimension

Dimensions (approx.) in mm

Approvals: E.P.I.L Co

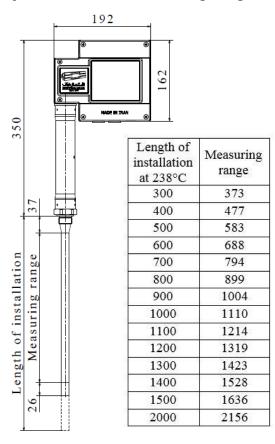
Acc. to: IEC 61000-4-2 IEC 61000-4-3

IEC 61000-4-8

IEC 60068-2-78

IEC 60068-2-1

IEC 60068-2-2



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Manufacturer of burners, valves and precision tools for steam boilers

Burner

Pressure Jet Burners

EPB Pressure Jet Burners 2

ECB Pressure Jet Burners 4

EW Pressure Jet Burners 6

Rotary Cup Burners

ERD Series Burners 8

EW Series Burners 10

PRD Series Burners 12

Burner Cataloge



ABOUT US

Eshteal Arak Industrial Engineering Company is the only manufacturer of high-capacity rotary cup burners in the country, and these burners are used by all boiler companies in the country . Among the unique products produced by this company are power valves that are designed for saturated and superheated steam lines. This product was prouced for the first time in the country in 2014 in the Mobarake steel complex and at a pressure of 70 bar It has been used successfully Eshteal Arak Industrial Engineering Company has been modernizing its production lines since 2003 and is currently equipped with more than 98 machines, 61 of which are CNC lathes and milling centers (referred to at the end) stepped into the field of producing products with modern sophisticated technology It should be mentioned that this company has succeeded in obtaining the knowledge-based badge on burners and valves during two consecutive periods and in order to enhance the brand and satisfy customers, the necessary standards such as ISIRI 7595, ISIRI 7594, ISO 3834, ISO 9001:2015 and implemented 55.

EMISSIONS

Following a philosophy of continuous improving, the R&D Laboratory is constantly working to produce better Results such as less harmful emissions and greater efficiency of the burner due to good combustion, which in turn creates great fuel savings. Many CFD 'computational fluid dynamics' projects have been completed to gain an accurate representation of the flow and mixing of the gases in the burner. In water tube boiler The design of the atomization system for liquid fuels will have a significant impact. Therefore, according to customers' requests, optimization on liquid fuel atomizer/spray tip has been defined as new projects of this company.



OUR PRODUCT RANGE



\mathbf{EW}	EPB	ECB	ERD	PRD	\mathbf{EW}
Doual Fuel	Doual Fuel	Doual Fuel	Doual Fuel	Doual Fuel	Doual Fuel
697 - 3300KW	900 - 3000KW	3.6 - 31MW	3074 - 1802KW	3074 - 1802KW	3074 - 1802KW

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The EPB series covers a firing range from 900kW through to 3000kW, and have been designed for use on hot water orindustrial steam Boilers.

EPB Series Burner



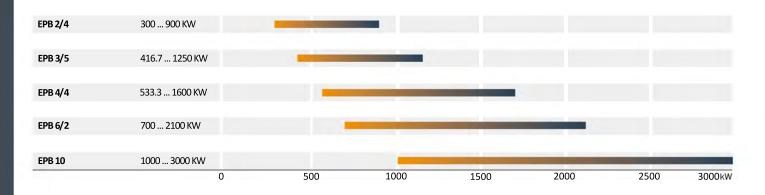
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EPB SERIES BURNER

RANGE OVERVIEW

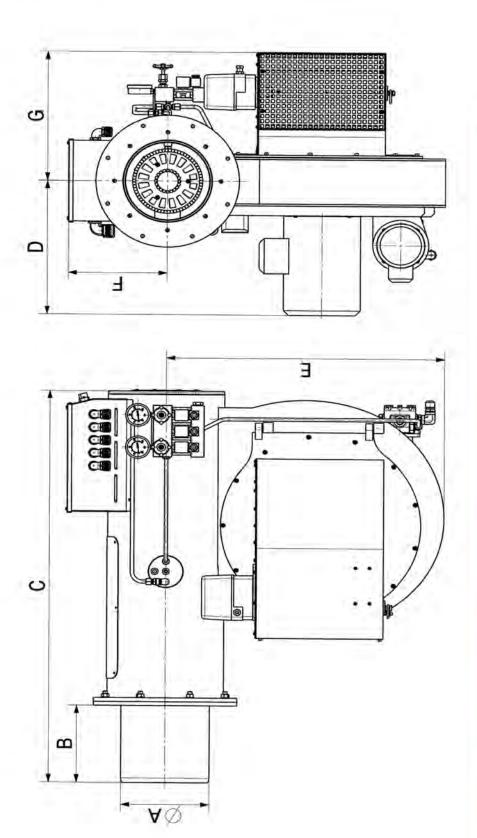


MAIN FEATURES

- The EPB burner series is characterised by a monoblock structure.
- For Two Stage Operation use twin simplex oil nozzles, for fully modulating operation use a single spill-back oil nozzle.
- Suitable for gas (LPG, NG) and oil (Light oil Heavy oil).
- turndown of 4:1 on gas, and 3:1 on oil.
- Designed in accordance with the European Standard EN 676 and EN267 and approved in accordance with the Iranian Standard ISIRI 7594 and ISIRI 7595.
- Emission class: Low NOx class 2 (≤120 mg/kWh).
- Stainless steel diffusers and blast tube cones.
- Simple construction allows easy access to internal components for maintenance.
- Large rear flame viewing port, enabling a unique view of the combustion process.
- Version with fully electronic Burner Management System available for Modulating models (LAMTEC combustion management system).



Dimensions (approx .) in mm



BURNER MODEL	A	B	O	Q	ш	L	ŋ
EPB 2.4	224	215	006	320	510	240	280
EPB 3.5	224	215	006	320	510	240	280
EPB 4.4	224	215	1200	430	800	300	410
EPB 6.2	252	240	1230	430	800	300	410
EPB 10	270	310	1300	430	800	300	410

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The ECB series covers a firing range from 3.6 MW through to 31 MW, and have been designed for use on hot water or industrial steam Boilers.

ECB Series Burner



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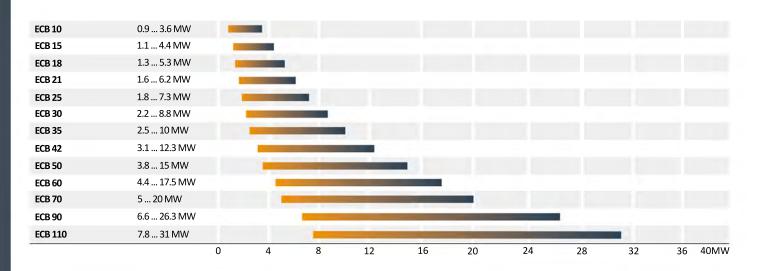
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ECB SERIES BURNER

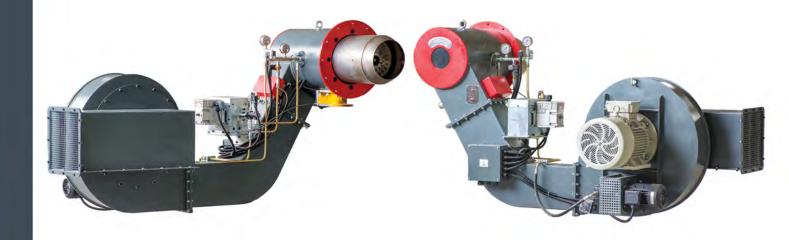
RANGE OVERVIEW



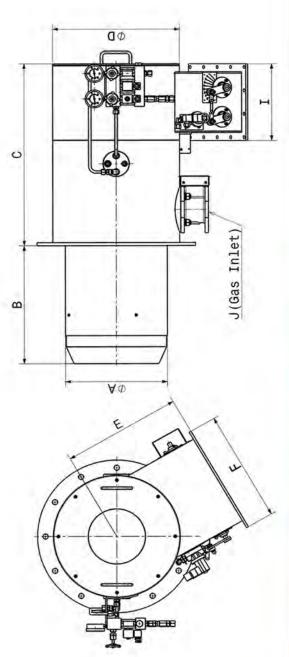
MAIN FEATURES

- Large rear flame viewing port, enabling a unique view of the combustion process.
- Simple construction allows easy access to internal components for maintenance.
- Multiple fixings on the burner rear section allows fan to be mounted in a variety of different positions to overcome site space restraints.
- Stainless steel diffusers and blast tube cones.
- Designed in accordance with the European Standard EN 676 and EN267 and approved in accordance with the Iranian Standard ISIRI 7594 and ISIRI 7595.
- turndown of 4:1.

- Version with fully electronic Burner Management System available (LAMTEC combustion management system).
- Emission class: Low NOx class 2 (≤120 mg/kWh).
- Suitable for gas (LPG, NG) and oil (Light oil, Heavy oil).



Dimensions (approx .) in mm



BURNER MODEL	4		U	Q	ш	L	-	-
ECB-M 10	305	396	653	395	411	376	276	2 1/2"
ECB-M 15	316	396	653	395	411	376	276	2 1/2"
ECB-M 18	370	431	715	480	450	434	302	3"
ECB-M 21	386	464	715	480	450	434	302	3".
ECB-M 25	425	556	830	630	260	575	420	4"
ECB-M 30	455	575	830	630	260	575	420	4"
ECB-M 35	200	595	830	630	260	575	420	4"
ECB-M 42	550	726	1220	835	663	730	603	9
ECB-M 50	290	768	1220	395	663	730	603	9
ECB-M 60	645	783	1220	835	663	730	603	9
ECB-M 70	700	809	1220	835	663	730	603	9
ECB-M 90	785	986	1623	1055	835	902	702	
ECB-M 110	880	1035	1623	1055	835	905	702	= ∞

Eshteal Arak Industrial Engineering Company is the only manufacturer of high-capacity rotary cup burners in the country, and these burners are used by all boiler companies in the country. Among the unique products produced by this company are power valves that are designed for saturated and superheated steam lines. This product was prouced for the first time in the country in 2014 in the Mobarake steel complex and at a pressure of 70 bar It has been used successfully Eshteal Arak Industrial Engineering Company has been modernizing its production lines since 2003 and is currently equipped with more than 98 machines, 61 of which are CNC lathes and milling centers (referred to at the end), stepped into the field of producing products with modern sophisticated technology It should be mentioned that this company has succeeded in obtaining the knowledge-based badge on burners and valves during two consecutive periods, and in order to enhance the brand and satisfy customers, the necessary standards such as ISIRI 7595, ISIRI 7594, ISO 3834, ISO 9001:2015 and implemented 5S



The EW series covers a firing range from 1162kW through to 3300kW, and have been designed for use on hot water or industrial steam Boilers.

EW Series Burner



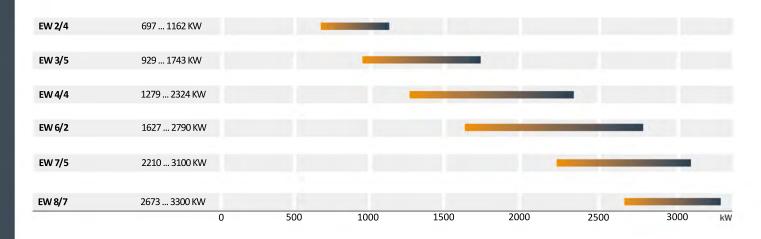
ESHTEAL ARAK

INDUSTRIAL ENGINEERING CO. Manufacturer of burners, valves and precision tools for steam boilers

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EW SERIES BURNER

RANGE OVERVIEW

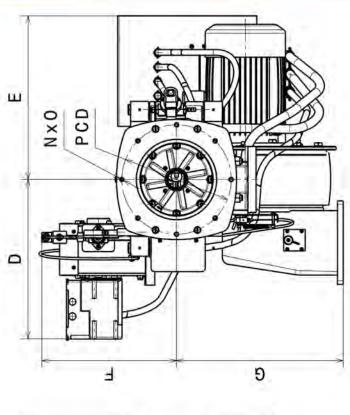


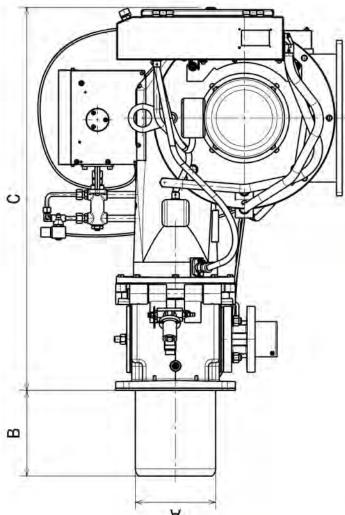
MAIN FEATURES

- For Two Stage Operation use twin simplex oil nozzles, the oil nozzles are sized to give a turndown ratio 2:1.
- For fully modulating operation use a single spill-back oil nozzle. If the burner has been correctly matched to the appliance, a turndown ratio of up to 3:1.
- Suitable for gas (LPG, NG) and oil (Light oil , Heavy oil).
- Suitable for high resistance boilers.
- Designed in accordance with the European Standard EN 676 and EN267 and approved in accordance with the Iranian Standard ISIRI 7594 and ISIRI 7595.
- Fully closing air damper.
- Preheater available for Heavy-oil.
- Diffuser controls the combustion air flow and creates a pressure drop across the burner head, promoting good fuel/air mixing and flame stability.
- Emission class: Low NOx class 2 (≤120 mg/kWh)
- Version with fully electronic Burner Management System available for Modulating models (LAMTEC combustion management system).



Dimensions (approx .) in mm





BURNER MODEL	۷	В	U	D	ш	u.	g	Hole NO.	p	PCD
EW 2.4	224	240	1070	460	460	400	200	∞	12	305
EW 3.5	224	240	1070	460	460	400	200	∞	12	305
EW 4.4	224	240	1070	460	460	400	200	∞	12	305
EW 6.2	252	240	1070	460	460	400	200	∞	12	305
EW 7.8	252	240	1070	460	460	400	200	∞	12	305
EW 8.7	252	240	1070	460	460	400	200	∞	12	305

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The rotary cup series covers a firing range from 3740kW through to 18200kW, and have been designed for use on hot water or industrial steam Boilers.

ERD Series Burner



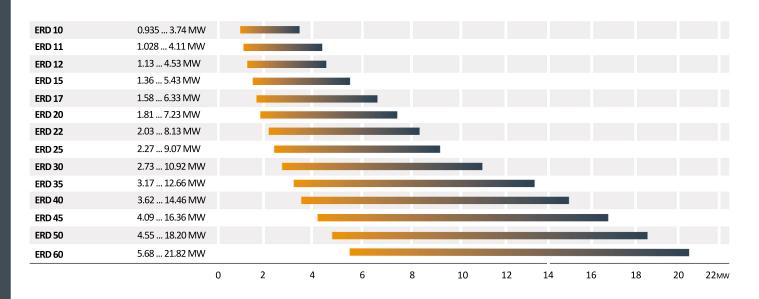
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ERD SERIES BURNER

RANGE OVERVIEW

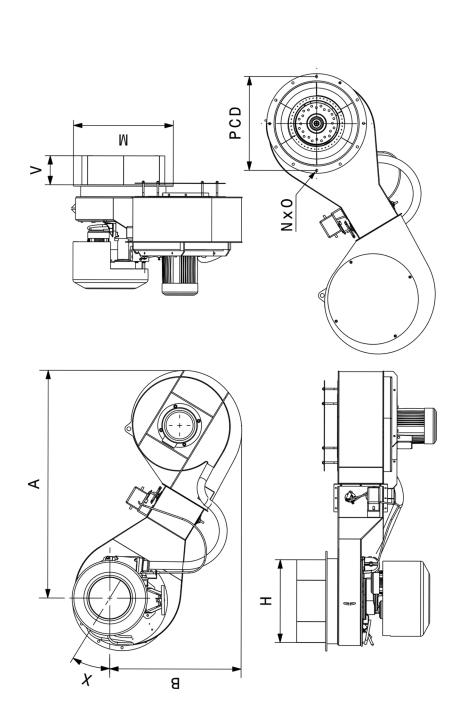


MAIN FEATURES

- Suitable for almost all combustion chamber geometries.
- In a rotary cup burner, there are separate ducts provided for primary and secondary air, this gives a well-controlled flame shape.
- Low fuel supply pressure required.
- High efficiency, low maintenance costs and long service life.
- turndown of 4:1.
- Constant velocity design wind box for improved air distribution and performance over entire turn-down range.
- Designed in accordance with the European Standard EN 676 and EN267 and approved in accordance with the Iranian Standard ISIRI 7594 and ISIRI 7595.
- Emission class: Low NOx class 2 (≤120 mg/kWh).



Dimensions (approx .) in mm



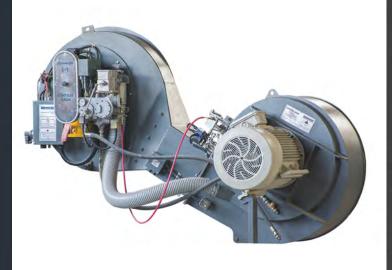
BURNER MODEL	A	В	н	Σ	^	×	Z	0	PCD
ERD-PRD 5-12	1700	1150	635	765	224	40 ,	12	19	720
ERD-PRD 14-20	2000	1080	735	865	256	32°	12	19	814
ERD-PRD 22-30	2200	1150	862	992	218	32°	12	19	941
FRD DRD 35 50	2400	1300	7	7,7	207	32°	0	5	11/1
-1 ND 33-30	2550	1350	TOSO	1710	400 C	37°	10	13	1 1 1 1
FRD-PRD 60	2400	1300	1000	1210	403	32	0,	6	77
	2550	1350	TOON	1710	5	37°	ТО	13	1144

Eshteal Arak Industrial Engineering Company is the only manufacturer of high-capacity rotary cup burners in the country, and these burners are used by all boiler companies in the country . Among the unique products produced by this company are power valves that are designed for saturated and superheated steam lines. This product was prouced for the first time in the country in 2014 in the Mobarake steel complex and at a pressure of 70 bar It has been used successfully Eshteal Arak Industrial Engineering Company has been modernizing its production lines since 2003 and is currently equipped with more than 98 machines, 61 of which are CNC lathes and milling centers (referred to at the end), stepped into the field of producing products with modern sophisticated technology It should be mentioned that this company has succeeded in obtaining the knowledge-based badge on burners and valves during two consecutive periods, and in order to enhance the brand and satisfy customers, the necessary standards such as ISIRI 7595, ISIRI 7594, ISO 3834, ISO 9001:2015 and implemented 5S



The rotary cup series covers a firing range from 3740kW through to 18200kW, and have been designed for use on hot water or industrial steam Boilers.

EW Series Burner



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Manufacturer of burners, valves
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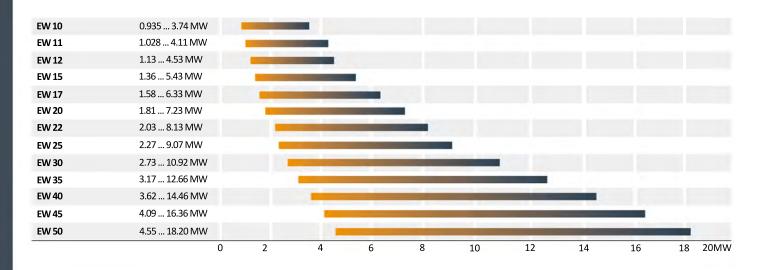
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EW SERIES BURNER

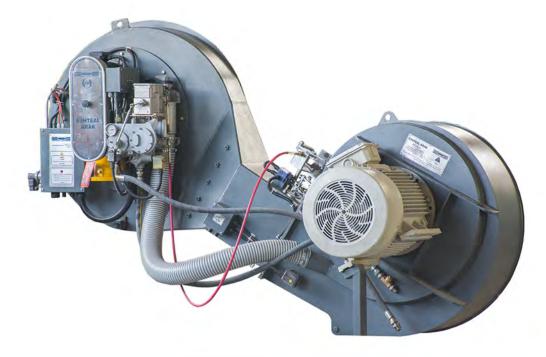
RANGE OVERVIEW



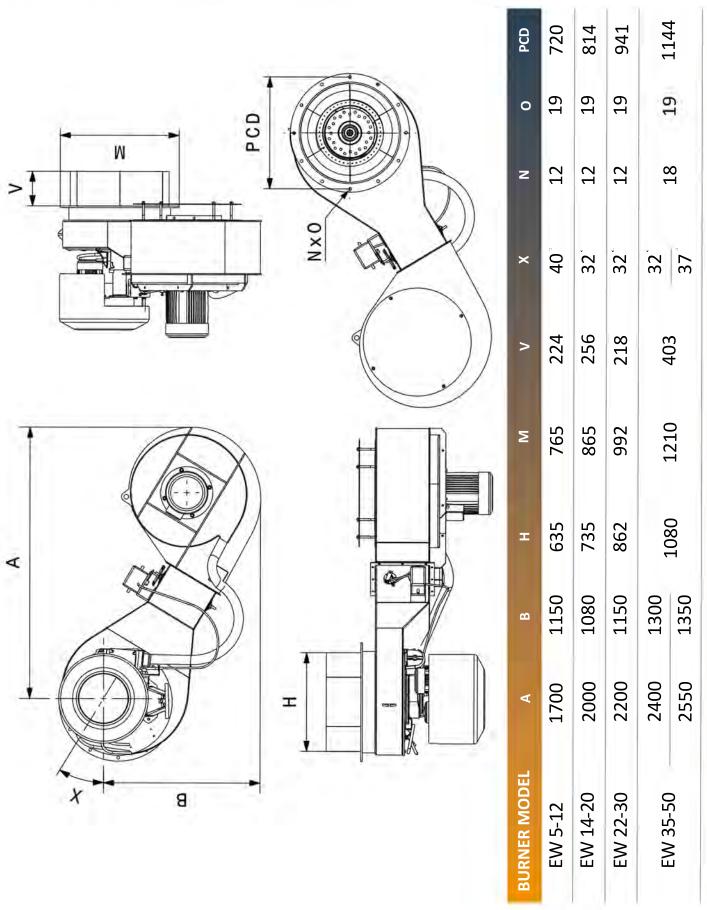
MAIN FEATURES

- Suitable for almost all combustion chamber geometries.
- The oil pumping and metering system is incorporated in a single assembly and fitted to the burner machine. The oil control valve, known as the voluvalve, ensures the correct proportion of oil, is directed to the atomizer to meet the load requirements.
- Low fuel supply pressure required.

- High efficiency, low maintenance costs and long service life.
- turndown of 4:1.
- Constant velocity design wind box for improved air distribution and performance over entire turn-down range.
- Designed in accordance with the European Standard EN 676 and EN267 and approved in accordance with the Iranian Standard ISIRI 7594 and ISIRI 7595.
- Emission class: Low NOx class 2 (≤120 mg/kWh).
- In a rotary cup burner, there are separate ducts provided for primary and secondary air, this gives a well -controlled flame shape.



Dimensions (approx .) in mm



BURNER MODEL	A	m	I	Σ	>	×	Z	0	PCD
EW 5-12	1700	1150	635	765	224	40°	12	19	720
EW 14-20	2000	1080	735	865	256	32	12	19	814
EW 22-30	2200	1150	862	992	218	32°	12	19	941
F\\/ 35_50	2400	1300	000	777	702	32	0	10	117,
LVV 33-30	2550	1350	1000	1710	t 0	37	ГО	CT	† - -

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The rotary cup series covers a firing range from 3740kW through to 18200kW, and have been designed for use on hot water or industrial steam Boilers.

PRD Series Burner



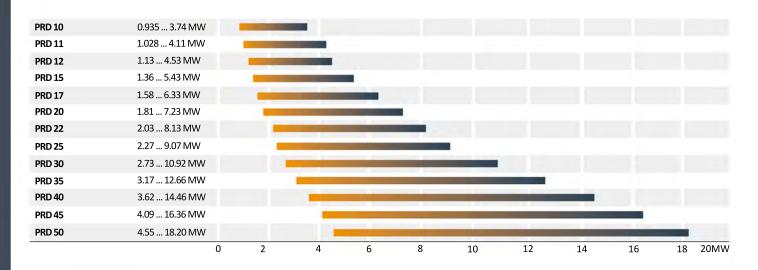
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PRD SERIES BURNER

RANGE OVERVIEW

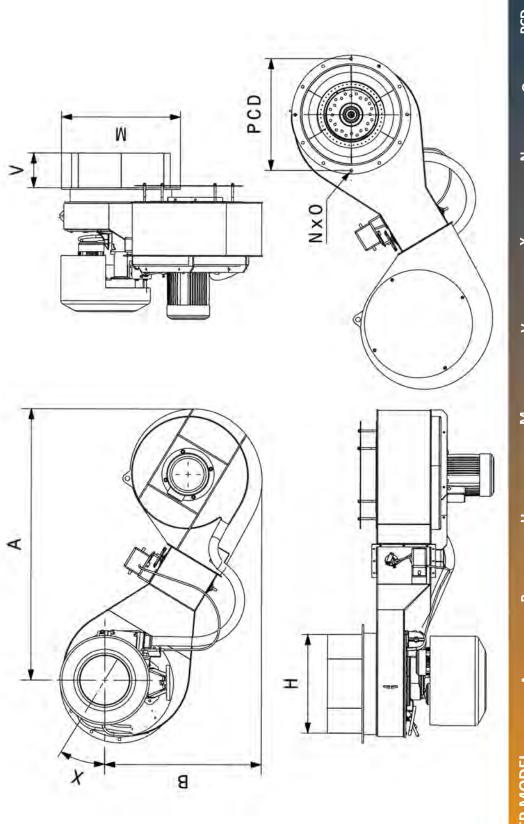


MAIN FEATURES

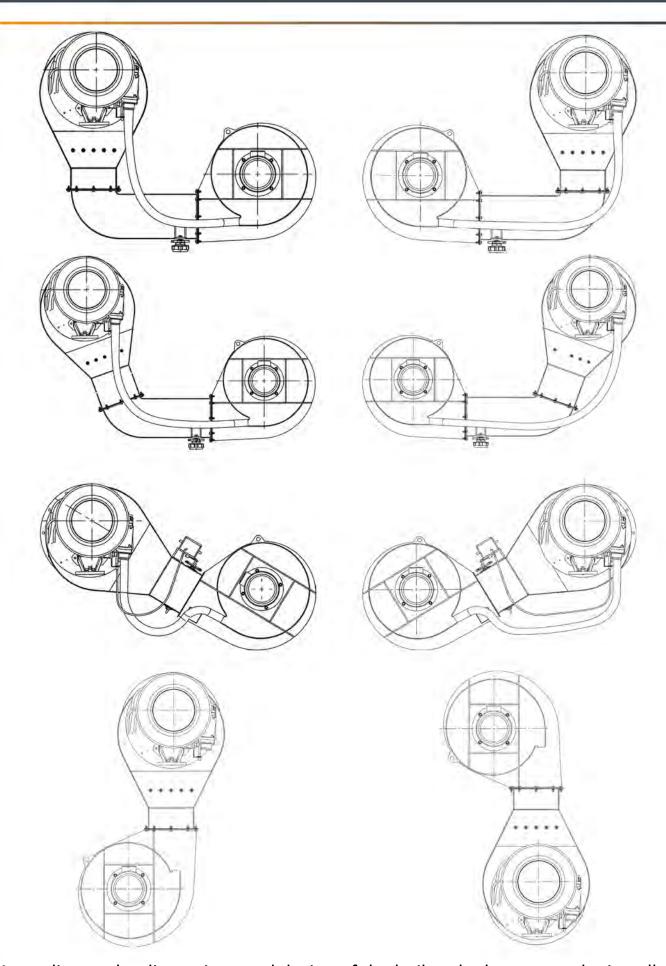
- Suitable for almost all combustion chamber geometries.
- In a rotary cup burner, there are separate ducts provided for primary and secondary air, this gives a well-controlled flame shape.
- Low fuel supply pressure required.
- PRD burner with LAMTEC systems increase the efficiency of power plants and combustions, reduce fuel consumption, and particularly decrease the emission of polluting CO2.
- High efficiency, low maintenance costs and long service life.
- turndown of 4:1.
- Constant velocity design wind box for improved air distribution and performance over entire turn-down range.
- Designed in accordance with the European Standard EN 676 and EN267 and approved in accordance with the Iranian Standard ISIRI 7594 and ISIRI 7595.
- Emission class: Low NOx class 2 (≤120 mg/kWh).



Dimensions (approx .) in mm



BURNER MODEL	۷	В	I	Σ	>	×	Z	0	PCD
ERD-PRD 5-12	1700	1150	635	765	224	40°	12	19	720
ERD-PRD 14-20	2000	1080	735	865	256	32°	12	19	814
ERD-PRD 22-30	2200	1150	862	992	218	32	12	19	941
FRD-PRD 35 50	2400	1300	7007	7,7,7	703	32°	0	10	11//
בוכר מון וישום	2550	1350	1000	1710	50	37°	ТО	T	† †



According to the dimensions and design of the boiler, the burner can be installed at different angles.

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