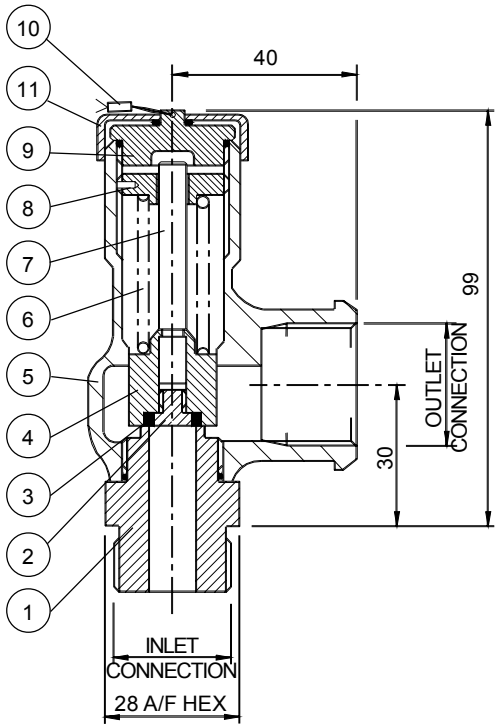


ILLUSTRATED SHOWING
TYPE S
NO EASING GEAR

PARTS LIST & MATERIAL SPECIFICATION

		67010	68010	69010
1	INLET SEAT	BRASS	ST.STL.	
2	SEAL RETAINER	BRASS	ST.STL.	
3	SEAL	TO SUIT APPLICATION		
4	PLUNGER	BRASS	ST.STL.	BRASS
5	BODY	BRASS	ST.STL.	BRASS
6	SPRING	ST.STL.		
7	SPINDLE	ST.STL.		
8	ADJUSTER	BRASS	ST.STL.	BRASS
9	CAP	BRASS	ST.STL.	BRASS
10	WIRELOCKING	ST.STL. & LEAD		
11	COVER	BRASS	ST.STL.	BRASS

APPROVALS

P.E.D. 97/23/EC
Type examination module B, Cert. No. 2002/048/8923
Quality management system module D, Cert. No. EDS 0002011/01.
Designed in accordance with BS 6759 Part 3 & ISO 4126-1:1991.

TECHNICAL DATA

Relieving pressure = Set pressure +25%
Reseating pressure = Set pressure max -20% down to 3 Bar.g.
= Below 3 Bar.g = 0.6 Bar.g.
Maximum set pressure = 30 Bar.g
Minimum set pressure = 0.76 Bar.g
Flow area = 70.9 mm²
Inlet bore diameter = 9.5 mm
Derated coefficient of discharge K_{dr} = 0.59
Temperature Range = -20°C to 200°C subject to seal material.
FOR FURTHER INFORMATION, CONVERSION FACTORS, INSTALLATION AND OPERATION INSTRUCTIONS ETC. SEE TECHNICAL INFORMATION SECTION.

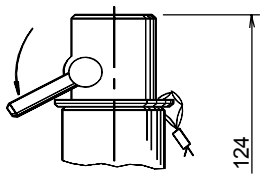
FLOW CHART

- TO CALCULATE INTERMEDIATE FLOWS SEE TECHNICAL INFORMATION SECTION C
- FOR GREATER FLOWS REFER TO 13mm BORE TYPE 67013 DATA SHEET, FOR LOWER FLOWS REFER TO SEETRU

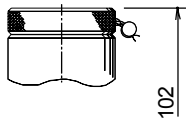
SET PRESSURE Bar.g	0.76	2	4	6	8	10	12	14	16	18	20	22	24	26	28	30
RATED DISCHARGE *CAPACITY IN ACCORDANCE WITH BS6759 WATER AT 15°C (kg/hr)	2075	3367	4761	5831	6733	7528	8246	8907	9522	10100	10650	11170	11660	12140	12600	13040

* DISCHARGING TO ATMOSPHERE

ALTERNATIVE TOP FITTING



TYPE SL
SEALED LEVER
EASING GEAR



TYPE R
ROTA-LIFT
EASING GEAR

VALVE SELECTION CHART

Standard thread sizes shown, other sizes may be available

INLET CONNECTION	OUTLET CONNECTION	ORDERING CODE CODE	TOP FITTING CODE		
			S	R	SL
G 1/2 (1/2" BSP PARALLEL)	G 3/4 (3/4" BSP PARALLEL)	67010A 68010A 69010A	1273	2073	4073
R 1/2 (1/2" BSP TAPER)	G3/4 (3/4" BSP PARALLEL)		1283	2083	4083

Example:
Ordering code 67010A 1273 is brass construction sealed valve, with 1/2" BSP parallel inlet connection, 3/4" BSP parallel outlet connection with Viton® seals, wirelocked, no easing gear.
Seal material:
Last digit of ordering code calls up Viton® seal (since this is the most universal type).
When other material is required last digit changes to:

1. NITRILE
3. VITON®
5. NEOPRENE
6. ETHYLENE PROPYLENE

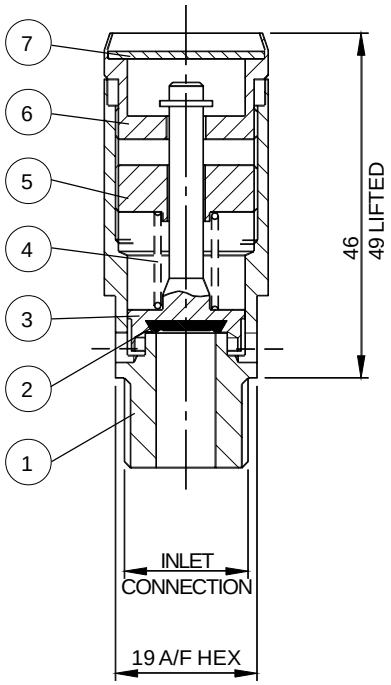
For advice on seal material selection refer to Technical Information Section A.

SEETRU LIMITED
ALBION DOCKSIDE WORKS, BRISTOL. BS1 6UT
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www.seetru.com enquiries@seetru.com

10mm Nominal Bore
DIRECT SPRING LOADED ENCLOSED
DISCHARGE SAFETY VALVE FOR LIQUIDS

ENCLOSED DISCHARGE
10mm NOM. BORE SERIES M/2
TYPE 67010 BRASS.
TYPE 68010 ST.STL.
TYPE 69010 BRASS/ST.STL.

EDITION C. 24.09.02
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ILLUSTRATED SHOWING
TYPE R
CRIMPED ROTA-LIFT
EASING GEAR

PARTS LIST & MATERIAL SPECIFICATION

		73008	74008	75008
1	BODY	BRASS BS2874 CZ121	ST.STL.	BRASS BS2874 CZ132
2	TUTCHTITE SEAL	TO SUIT APPLICATION		
3	SPINDLE/ PLUNGER	BRASS BS2874 CZ121	ST.STL.	BRASS BS2874 CZ132
4	SPRING	ST.STL BS2056 302S26		
5	ADJUSTER	BRASS BS2874 CZ121	ST.STL.	BRASS BS2874 CZ132
6	CAP	BRASS BS2874 CZ121	ST.STL.	-
7	NAMEPLATE	AL.ALLOY		-

NOTE: WIRELOCK AVAILABLE ON TYPE 74008 ONLY.

APPROVALS

Ad - MERKBLATT A2 1998: (TÜV GERMANY), REF.- T.Ü.V.SV.01-276.7,9.D/G.0,63.p.
P.E.D. 97/23/EC
Type examination module B, Cert. No. 01 202 111-B-00015
Quality management system module D, Cert. No. EDS0002011/01
Designed in accordance with BS6759:1984 & I.S.O. 4126-1:1991

TECHNICAL DATA

Relieving pressure	= set pressure +10% (0.1 Bar.g below 1.0 Bar.g)
Reseating pressure	= set pressure -10% (0.3 Bar.g below 3.0 Bar.g)
Maximum set pressure	= 17.5 Bar.g
Minimum set pressure	= 0.27 Bar.g
Flow area	= 49mm^2
Inlet bore diameter	= 7.9mm
T.Ü.V. Derated coefficient of discharge α_d	= 0.63 below 3.0 Bar.g see 'α_dVs set pressure chart'.
Temperature range	= -20^{O}C TO 200^{O}C subject to normal seal materials.

FOR FURTHER INFORMATION, INSTALLATION AND OPERATIONS, CONVERSION FACTORS ETC. SEE TECHNICAL INFORMATION SECTION.

FLOW CHART

- TO CALCULATE INTERMEDIATE FLOWS SEE TECHNICAL INFORMATION SECTION
- FOR GREATER FLOWS REFER TO 8mm BORE TYPE 81808 DATA SHEET, FOR LOWER FLOW REFER TO 6mm BORE TYPE 81806 DATA SHEET.

SET PRESSURE Bar.g	0.27	0.5	1.0	1.5	2	3	4	5	6	7	8	9	10	11	12	15	17.5
CERTIFIED DISCHARGE CAPACITY IN ACCORDANCE WITH TÜV, AIR AT 0^{o}C AND 1013 mbar Normal m^3/h	19.8	27.5	40.9	54.2	66.5	90.7	113.8	137.0	160.1	183.3	206.4	229.5	252.7	275.8	298.9	368.4	426.2
RATED DISCHARGE CAPACITY IN ACCORDANCE WITH BS 6759, AIR AT 15^{o}C AND 1013 mbar Std. Litres/s	5.6	7.75	11.5	15.3	18.8	25.6	32.1	38.6	45.2	51.7	58.2	64.8	71.3	77.8	84.4	103.9	120.3

VALVE SELECTION CHART

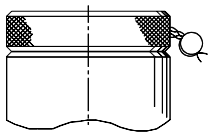
STANDARD THREADS SIZES SHOWN, OTHER SIZES MAY BE AVAILABLE.

INLET CONNECTION	ORDERING CODE	TOP FITTING CODE			
		73008 R	74008 RW	73008 SL	75008 SL
R 1/4 (1/4" BSP TAPER)	73008 74008 75008	1223	0823	0423	0423
R 3/8 (3/8" BSP TAPER)		1253	0853	0453	0453

Example:
Order code 73008 1223 is Rota-lift type easing gear. 1/4"BSPTR inlet connection, with Viton® seals and crimped locking.
Seal Material:
Last digit of ordering code calls up Viton® seal (since this is the most universal type).
When other material is required, last digit changes to:-

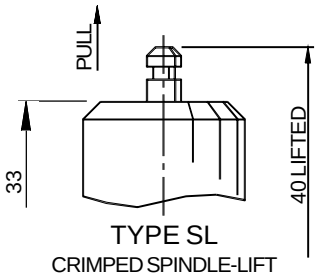
1. Nitrile
3. Viton®
5. Neoprene
6. Ethylene Propylene.

ALTERNATIVE
TOP FITTING



TYPE RW
WIRELOCKED ROTA-LIFT
EASING GEAR

NON PREFERED TYPE



TYPE SL
CRIMPED SPINDLE-LIFT
EASING GEAR

SEETRU LIMITED

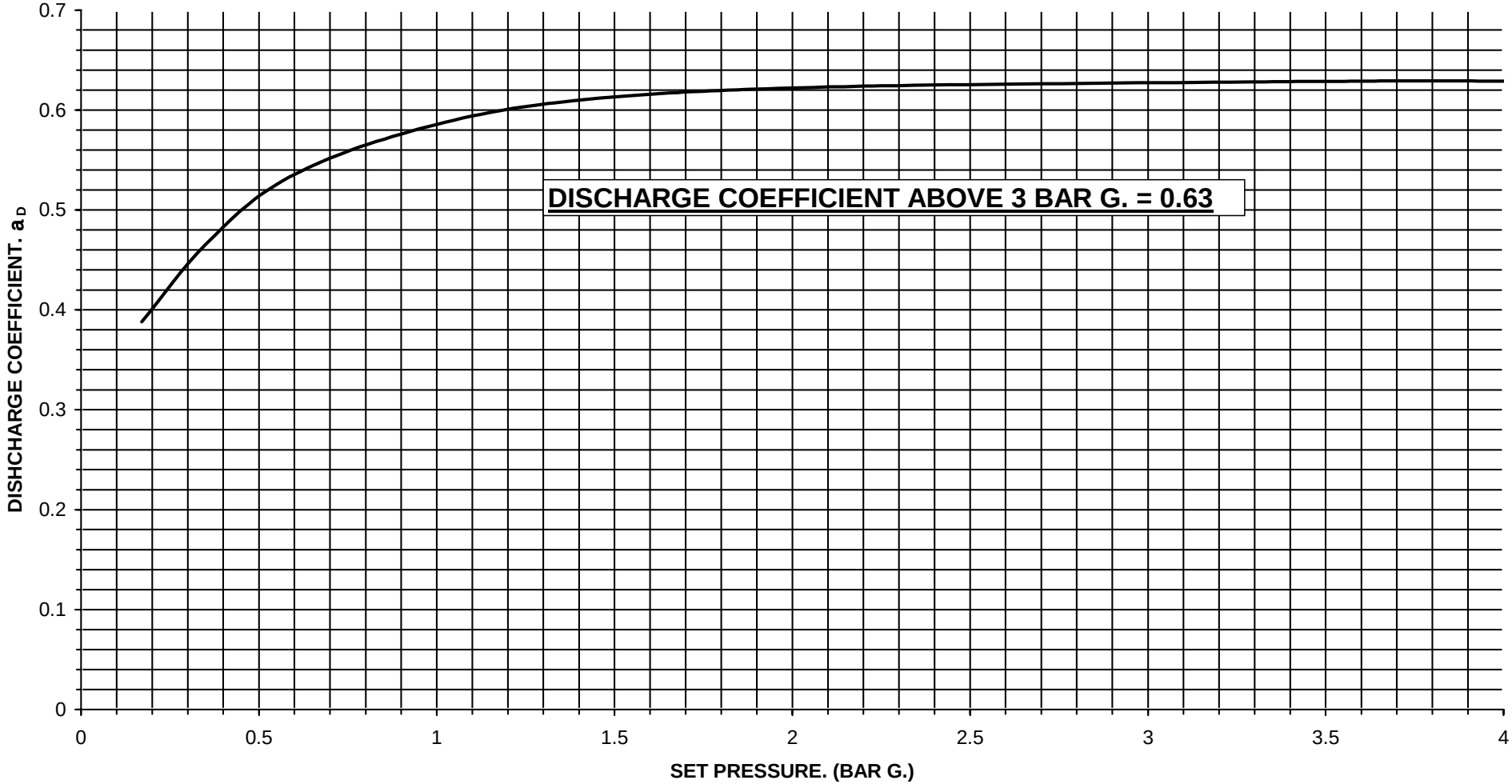
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TELEPHONE +44 (0) 117 927 9204, FAX +44 (0) 117 929 8193
www.seetru.com enquires@seetru.com

8mm Nominal Bore
DIRECT SPRING LOADED ATMOSPHERIC DISCHARGE SAFETY VALVE FOR COMPRESSED AIR OR GASES

SERIES
TYPE 73008 BRASS
TYPE 74008 ST.STL.
TYPE 75008 BRASS

EDITION D. 26.09.02
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PRESSURE / DISCHARGE COEFFICIENT CURVE FOR VALVE 73008. 0.27 - 4.0 BAR G.



SEETRU LIMITED

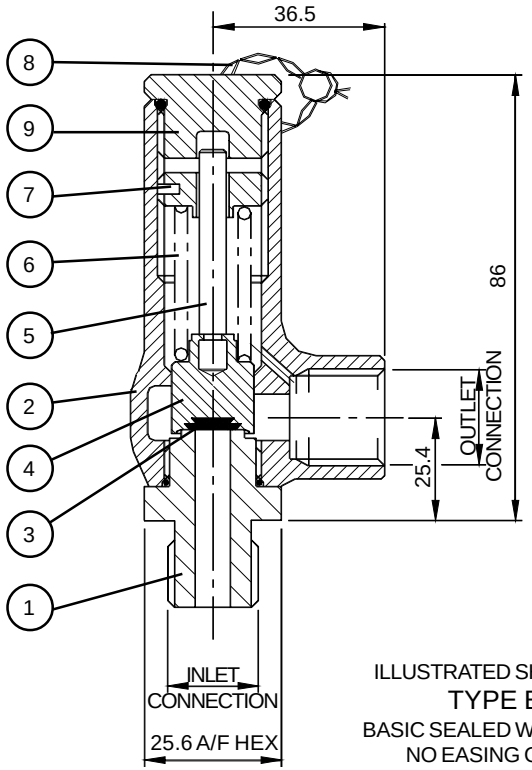
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www.seetru.com enquires@seetru.com

8mm Nominal Bore
DIRECT SPRING LOADED ATMOSPHERIC DISCHARGE SAFETY VALVE FOR COMPRESSED AIR OR GASES

SERIES

TYPE 73008 BRASS
TYPE 74008 ST.STL.
TYPE 75008 BRASS

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ILLUSTRATED SHOWING
TYPE B
BASIC SEALED WIRELOCK
NO EASING GEAR

PARTS LIST & MATERIAL SPECIFICATION

		33020	34020
1	SEAT	ST.STL.	
2	BODY	BRASS	ST.STL.
3	DISC SEAL	TO SUIT APPLICATION	
4	PLUNGER	ST.STL.	
5	SPINDLE	ST.STL.	
6	SPRING	ST.STL.	
7	ADJUSTER	BRASS	ST.STL.
8	WIRE & SEAL	ST.STL. & LEAD	
9	CAP	BRASS	ST.STL.
10	KNOB	PLASTIC	PLASTIC

APPROVALS

P.E.D. 97/23/EC
Type examination module B, Cert. No. 2002/036/8878/1
Quality management system module D, Cert. No. EDS 0002011/01
Designed in accordance with ISO 4126-1:1991.

TECHNICAL DATA

Relieving pressure	= Set pressure + 10%
Reseating pressure	= Set pressure - 15%
Maximum set pressure	= 33020 / 34020 = 104 Bar.g
Minimum set pressure	= 33020 / 34020 = 55 Bar.g
Flow area	= 40.04 mm²
Inlet bore diameter	= 0.281" (7.14mm)
Derated coefficient of discharge, K_{dr} AIR	= 0.67,

Temperature range = -50°C to 200°C subject to seal material.

FLOW CHART

- TO CALCULATE INTERMEDIATE FLOWS SEE TECHNICAL INFORMATION SECTION.

SET PRESSURE Bar.g	55	60	65	70	75	80	85	90	95	100	104
RATED DISCHARGE CAPACITY IN ACCORDANCE WITH BS 6759, AIR AT 15°C AND 1013 mbar Std.Litres/s	317	345	374	402	431	459	487	516	544	572	595

VALVE SELECTION CHART

STANDARD THREAD SIZES SHOWN, OTHER SIZES MAY BE AVAILABLE.

INLET CONNECTION	OUTLET CONNECTION	TYPE	TOP FITTING CODE
			B
G 3/8 (3/8" BSP PARALLEL)	G 1/2 (1/2" BSP PARALLEL)	33020 34020	0201
R 3/8 (3/8" BSP TAPER)	R 1/2 (1/2" BSP TAPER)		0182
G 1/2 (1/2" BSP PARALLEL)	G 1/2 (1/2" BSP PARALLEL)		1201
R 1/2 (1/2" BSP TAPER)	R 1/2 (1/2" BSP TAPER)		2202
1/2" NPT	1/2" NPT		3203

Example:
Ordering code 33020 0201 is a Basic wirelock with 3/8"BSP inlet connection & 1/2"BSP outlet connection.
Seal Materials:
Consult Seetru for full range of available seal materials.

SEETRU LIMITED

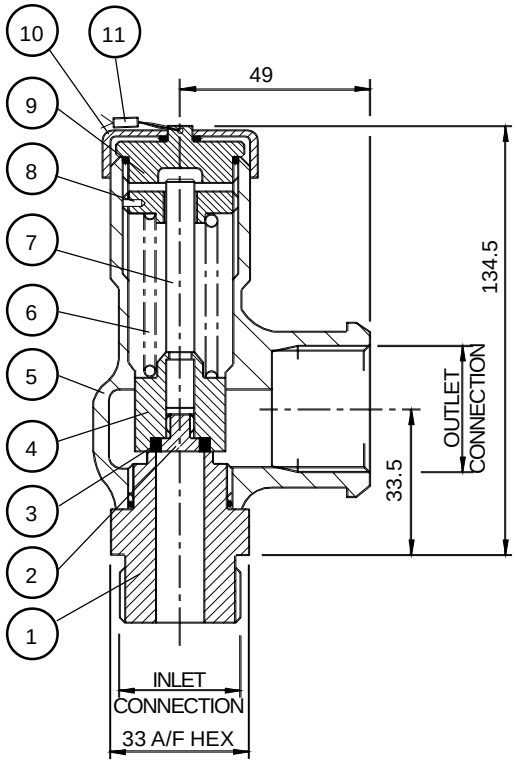
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TELEPHONE +44 (0) 117 927 9204, FAX +44 (0) 117 929 8193
www.seetru.com enquiries@seetru.com

1/4" Nominal Bore BRASS CONSTRUCTION
DIRECT SPRING LOADED ENCLOSED
DISCHARGE SAFETY VALVE FOR
COMPRESSED AIR OR GASES

ENCLOSED DISCHARGE
1/4" NOMINAL BORE

TYPE 33020 BRASS/ST.STL.
TYPE 34020 ST.STL.

EDITION A. 08.07.03
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ILLUSTRATED SHOWING
TYPE S
NO EASING GEAR

PARTS LIST & MATERIAL SPECIFICATION

		67013	68013	69013
1	INLET SEAT	BRASS	ST.STL	
2	SEAL RETAINER	BRASS	ST.STL	
3	SEAL	TO SUIT APPLICATION		
4	PLUNGER	BRASS	ST.STL	BRASS
5	BODY	BRASS	ST.STL	BRASS
6	SPRING	ST.STL		
7	SPINDLE	ST.STL		
8	ADJUSTER	BRASS	ST.STL	BRASS
9	CAP	BRASS	ST.STL	BRASS
10	WIRE & SEAL	ST.STL. & LEAD		
11	COVER	BRASS	ST.STL	BRASS

TECHNICAL DATA

P.E.D. 97/23/EC
Type examination module B, Cert. No. 2002/043/8923.
Quality management system module D, Cert. No. EDS 0002011/01.
Designed in accordance with BS 6759 Part 3 & ISO 4126-1:1991.

TECHNICAL DATA

Relieving set pressure	= +25%
Reseating set pressure	= - max 20% down to 3 Bar.g
	= Below 3 Bar.g = 0.6 Bar.g
Maximum set pressure	= 27 Bar.g
Minimum set pressure	= 0.7 Bar.g
Flow area	= 147.4 mm²
Inlet bore diameter	= 13.7 mm
Derated coefficient of discharge K_{dr}	= 0.57
Temperature Range	= -20°C to 200°C subject to seal material.

FOR FURTHER INFORMATION, CONVERSION FACTORS INSTALLATION AND OPERATION INSTRUCTIONS ETC. SEE TECHNICAL INFORMATION SECTION.

FLOW CHART

- TO CALCULATE INTERMEDIATE FLOWS SEE TECHNICAL INFORMATION SECTION C.
- FOR GREATER FLOWS REFER TO 20mm BORE TYPE 67020 DATA SHEET, FOR LOWER FLOWS REFER TO 10mm BORE TYPE 67010 DATA SHEET

SET PRESSURE Bar.g	0.7	2	4	6	8	10	12	14	16	18	20	22	24	26	27
RATED DISCHARGE * CAPACITY INACCORDANCE WITH BS 6759, WATER AT 15°C (kg/hr)	3764	6759	9560	11708	13519	15116	16558	17885	19119	20279	21376	22419	23416	24372	24837

* DISCHARGING TO ATMOSPHERE

VALVE SELECTION CHART

Standard thread sizes shown, other sizes may be available.

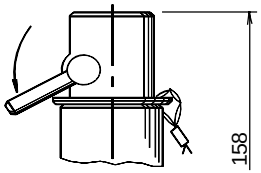
INLET CONNECTION	OUTLET CONNECTION	ORDERING CODE	TOP FITTING CODE		
			S	R	SL
G 3/4 (3/4" BSP PARALLEL)	G 1 (1" BSP PARALLEL)	67013A 68013A 69013A	1303	2103	4103
R 3/4 (3/4" BSP TAPER)	G1 (1" BSP PARALLEL)		1313	2113	4113

Example:
Ordering code 67013A 1303 is brass construction Sealed valve, with 3/4"BSP parallel inlet connection, 1"BSP parallel outlet connection with Viton® seals wirelocked no easing gear.
Seal material:
Last digit of ordering code calls up Viton® seal (since this is the most universal type).
When other material is required last digit changes to:

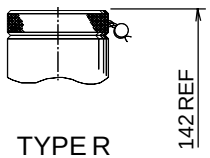
1. NITRILE
3. VITON®
5. NEOPRENE
6. ETHYLENE PROPYLENE

For advice on seal material selection refer to Technical Information Section A.

ALTERNATIVE TOP FITTING



TYPE SL
SEALED LEVER
EASING GEAR



TYPE R
ROTA-LIFT
EASING GEAR

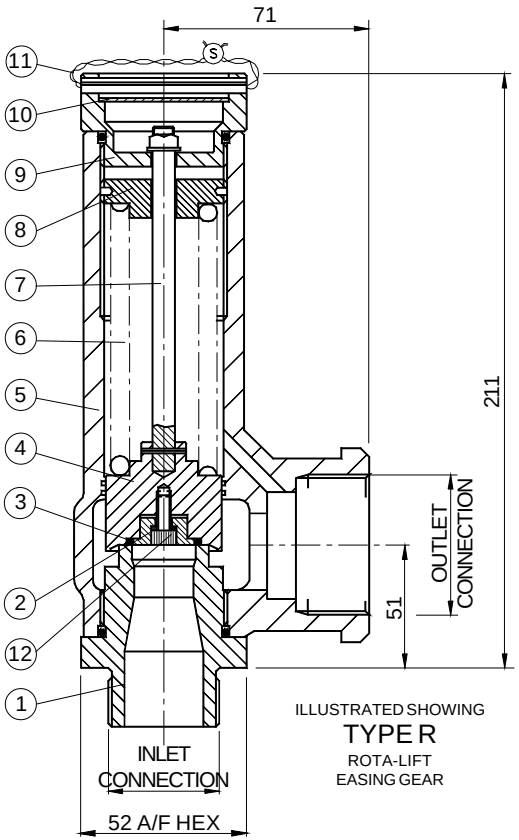
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TELEPHONE +44 (0) 117 927 9204, FAX +44 (0) 117 929 8193
www.seetru.com enquiries@seetru.com

13mm Nominal Bore
DIRECT SPRING LOADED ENCLOSED
DISCHARGE SAFETY VALVE FOR LIQUIDS

ENCLOSED DISCHARGE
13mm NOM. BORE SERIES M/2
TYPE 67013 BRASS
TYPE 68013 ST.STL.
TYPE 69013 BRASS/ST.STL.

EDITION C. 25.09.02
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ILLUSTRATED SHOWING
TYPE R
ROTA-LIFT
EASING GEAR

PARTS LIST & MATERIAL SPECIFICATION

		67018	69018
1	INLET SEAT	BRASS	ST. STL.
2	SEAL RETAINER	BRASS	ST. STL.
3	'O' RING	TO SUIT APPLICATION	
4	PLUNGER	BRASS	ST. STL.
5	BODY	BRONZE	ST.STL.
6	SPRING	ST.STL.	
7	SPINDLE	ST.STL.	
8	ADJUSTER	BRASS	
9	CAP	BRASS	
10	NAMEPLATE	ALUMINIUM	
11	WIRE & SEAL	ST.STL AND LEAD	
12	SCREW	ST.STL.	

APPROVALS

P.E.D. 97/23/EC
Type examination module B, Cert. No. 2002/044/8923
Quality management system module D, Cert. No. EDS 0002011/01
Designed in accordance with BS6759 Part 3 & ISO 4126-1:1991, but not approved.

TECHNICAL DATA

Relieving pressure	= Set pressure + 25%
Reseating pressure	= Set pressure - max 20% down to 3 Bar.g; Below 3 Bar.g = 0.6 Bar.g
Maximum set pressure	= 25.7 Bar.g
Minimum set pressure	= 5.4 Bar.g
Flow area	= 227mm²
Inlet bore diameter	= 17mm
Derated coefficient of discharge K_{dr}	= 0.55
Temperature Range	= Subject to seal material.

FOR FURTHER INFORMATION, CONVERSION FACTORS, INSTALLATION AND OPERATION INSTRUCTIONS ETC. SEE TECHNICAL INFORMATION SECTION.

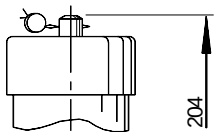
FLOW CHART

-TO CALCULATE INTERMEDIATE FLOWS SEE TECHNICAL INFORMATION SECTION C.
- FOR GREATER FLOWS REFER TO 20mm BORE TYPE 67020 DATA SHEET, FOR LOWER FLOWS REFER TO 13mm BORE 67013 DATA SHEET

SET PRESSURE (Bar.g)	5.4	6	7	8	9	10	12	14	16	18	20	22	24	25.7
RATED DISCHARGE * CAPACITY IN ACCORDANCE WITH BS 6759, WATER AT 15°C (kg/hr)	16504	17397	18791	20089	21307	22460	24604	26574	28410	30133	31763	33314	34795	36006

* DISCHARGING TO ATMOSPHERE

ALTERNATIVE TOP FITTING



TYPE S
SEALED
NO EASING GEAR

VALVE SELECTION CHART

Standard thread sizes shown, other sizes may be available

INLET CONNECTION	OUTLET CONNECTION	ORDERING CODE	TOP FITTING CODE	
			S	R
G 1 (1" BSP PARALLEL)	G1 1/2 (1 1/2" BSP PARALLEL)	67018A 69018A	1333	2133
R 1 (1" BSP TAPER)	G1 1/2 (1 1/2" BSP PARALLEL)		1343	2143

Example:
Ordering code 67018A 1333 is Sealed valve with 1" BSP Parallel inlet connection. 1 1/2" BSP Parallel outlet connection with Viton seals, wirelocked no easing gear.
Seal material:
Last digit of ordering code calls up Viton 'O' ring seal (since this is the most universal type).
When other material is required this changes to :

1. NITRILE
3. VITON ®
5. NEOPRENE
6. ETHYLENE PROPYLENE

For advice on seal material selection refer to Technical Information Section A.

SEETRU LIMITED

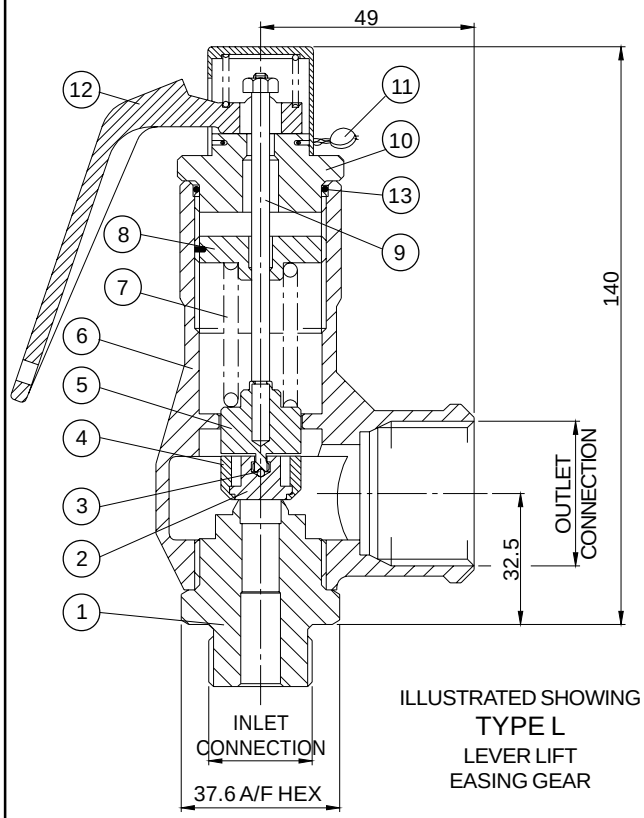
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18mm Nominal Bore
DIRECT SPRING LOADED ENCLOSED DISCHARGE SAFETY VALVE FOR LIQUIDS

ENCLOSED DISCHARGE
18mm NOMINAL BORE SERIES M/2
TYPE 67018
TYPE 69018

EDITION C. 07.08.02

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ILLUSTRATED SHOWING
TYPE L
LEVER LIFT
EASING GEAR

PARTS LIST AND MATERIAL SPECIFICATION

		93610	94610
1	SEAT	BRASS	ST.STL.
2	DISC	ST.STL. 316	ST.STL. 440B
3	BALL	ST.STL.	
4	DISC HOLDER	ST.STL.	
5	PLUNGER	ST.STL.	
6	BODY	BRASS	ST.STL.
7	SPRING	ST.STL.	
8	ADJUSTER	BRASS	ST.STL.
9	SPINDLE	ST.STL.	
10	CAP	BRASS	ST.STL.
11	WIRE & SEAL	ST.STL. & LEAD	
12	LEVER	BRASS	ST.STL. *
13	O'RING	TO SUIT APPLICATION	

* TYPE SL ONLY

APPROVALS

TÜV Approved:-
Ref- TÜV.SV.03-1016.10.D/G.0,83.p. For 3-28 Bar.g. Below 3 Bar.g. see 'α_D vs Set Pressure' chart.
93610 type materials meet the requirements of BAM (Germany) for oxygen service.
Designed in accordance with BS 6759 (but not approved) & ISO 4126 .
P.E.D. 97/23/EC
Type examination module B, Cert. No. 01 202 111-B00017
Quality management system module D, Cert. No. EDS 002011/01.

TECHNICAL DATA

Relieving pressure = Set pressure +10%, 0.1 Bar.g. below 1.0 Bar.g.
Reseating pressure = Set pressure -10%, 0.3 Bar.g. below 3.0 Bar.g.
Maximum set pressure = 28 Bar.g.
Minimum set pressure = 0.3 Bar.g.
Flow area = 78.5 mm^2
Inlet bore diameter = 10 mm
TÜV Derated coefficient of discharge α_D = 0.83. Below 3.0 Bar.g. see 'α_D vs set pressure' chart.
Leak tightness at 90% set pressure to API 527 and in accordance with BS6759 Part 3 1984, Table 9 Grade 2. Greater leak tightness may be achieved on request.
Maximum temperature = 250°C Note: For sealed top fittings, max. temp. dependent on seal material.
Minimum temperature = -196°C subject to material specification.
Maximum permissible built up back pressure =10% of set pressure at or below which flow is not reduced.
Stable operation on flows down to 50% of valve rated capacity.
FOR FURTHER INFORMATION, INSTALLATION AND OPERATION INSTRUCTIONS, CONVERSION FACTORS ETC. SEE TECHNICAL INFORMATION SECTION.

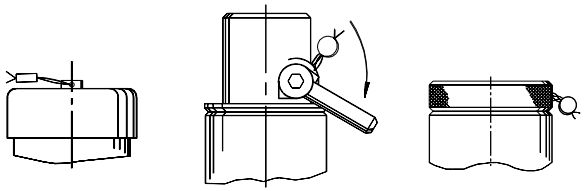
FLOW CHART

- TO CALCULATE INTERMEDIATE FLOWS SEE TECHNICAL INFORMATION SECTION
- FOR GREATER FLOWS REFER TO 15mm BORE TYPE 93615 DATA SHEET.

SET PRESSURE Bar.g	0.3	0.5	1.0	2.0	3	4	5	6	7	8	9	10	15	20	25	28
RATED DISCHARGE * CAPACITY IN ACCORDANCE WITH BS6759, AIR AT 15°C AND 1013 mbar std. Litres/s	11.7	15.8	23.7	31.1	54	67	81	95	109	122	136	150	219	288	357	398
RATED DISCHARGE * CAPACITY IN ACCORDANCE WITH BS6759, PART 1, STEAM Kg/h	31.4	42.9	64.8	104.4	147	185	222	260	298	335	373	411	599	787	975	1089
RATED DISCHARGE * CAPACITY IN ACCORDANCE WITH TUV, AIR AT 0°C AND 1013 mbar Normal m^3/h	39.1	56.3	83.5	134.8	191	240	289	338	386	435	484	533	777	1021	1266	1412
RATED DISCHARGE * CAPACITY IN ACCORDANCE WITH TUV, STEAM Kg/h	32.5	44.5	66.1	106.2	149	186	222	259	295	332	368	405	585	765	947	1055

* DISCHARGING TO ATMOSPHERE

ALTERNATIVE TOP FITTINGS



TYPE S
SEALED
NO EASING GEAR

TYPE SL
SEALED LEVER
EASING GEAR

TYPE R
ROTA-LIFT
EASING GEAR

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10mm Nominal Bore METAL SEAL
DIRECT SPRING LOADED ENCLOSED
DISCHARGE SAFETY VALVE FOR
COMPRESSED AIR, GASES & STEAM

ENCLOSED DISCHARGE
10mm NOMINAL BORE SERIES
TYPE 93610 BRASS
TYPE 94610 ST.STL.

EDITION K. 26.09.02

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VALVE SELECTION CHART

Standard thread sizes shown, other sizes may be available

INLET CONNECTION	OUTLET CONNECTION	ORDERING CODE	TOP FITTING CODE			
			R	S	SL	L #
G 1/2 (1/2" BSP PARALLEL MALE)	G 1 (1" BSP PARALLEL)	93610A 94610A	207	127	407	327
R 1/2 (1/2" BSP TAPER MALE)			208	128	408	328
G 1/2 (1/2" BSP PARALLEL FEMALE)		93610D 94610D	207	127	407	327

Example 1: Ordering code 93610A 207 3 is brass seated,
Rota lift type R, with 1/2"BSP parallel MALE inlet connection,
1"BSP parallel outlet connection, with Viton® 'O'ring.

Example 2: Ordering code 93610D 207 3 is brass seated,
Rota lift type R, with 1/2"BSP parallel FEMALE inlet connection,
1"BSP parallel outlet connection, with Viton® 'O'ring.

NOT AVAILABLE ON 94610

O'RING SEAL CHART

	O'RING MATERIAL	10th DIGIT	MAX. STATIC TEMP. °C	MIN. STATIC TEMP. °C
	NITRILE	1	150	-30
	VITON®	3	250	-20
	SILICONE	4	250	-50
	NEOPRENE	5	120	-40
	E.PROPYLENE	6	150	-40
*	P.T.F.E.	7	250	-196

Note: Digits '1 - 7' indicates the required o'ring material dependent on the maximum / minimum static temperature.

Example: Ordering code 93610A 407 3 is a brass seated, Sealed lever lift type SL, 1/2"BSP parallel MALE inlet connection, 1"BSP parallel outlet connection, with Viton® 'O'ring seals.

* For cryogenic service type 'S' valves only.
TYPE 94610 VALVES ARE NOT SUITABLE FOR CRYOGENIC SERVICE. USE 93610 TYPE 'S'

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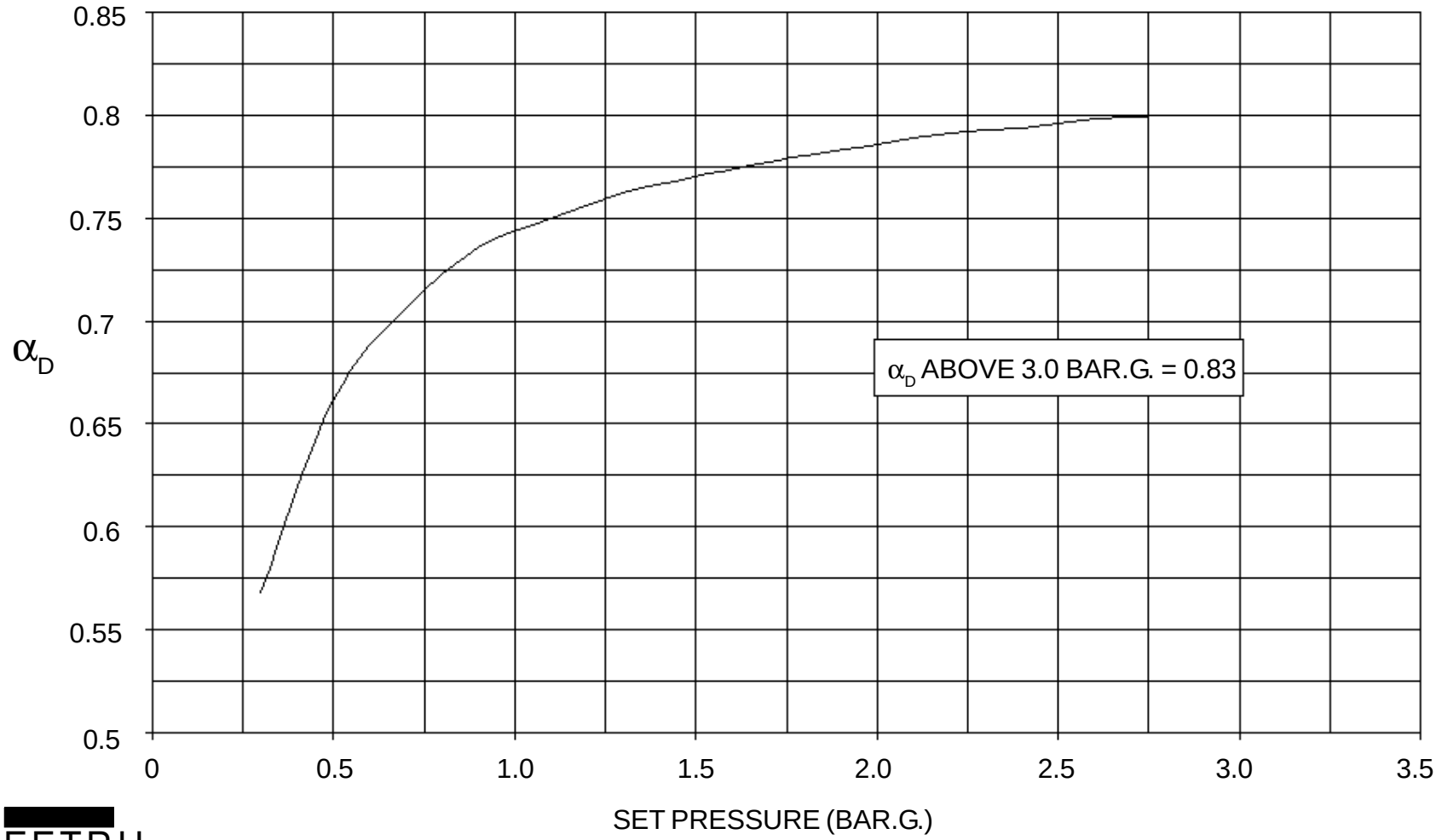
10mm Nominal Bore METAL SEAL DIRECT SPRING LOADED ENCLOSED DISCHARGE SAFETY VALVE FOR COMPRESSED AIR, GASES & STEAM

ENCLOSED DISCHARGE
10mm NOMINAL BORE SERIES
TYPE 93610 BRASS
TYPE 94610 ST.STL.

EDITION K. 26.09.02

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α_D vs SET PRESSURE CHART
SEETRU SAFETY RELIEF VALVE 93610 / 94610
0.3 to 3.0 BAR.G.



SEETRU LIMITED

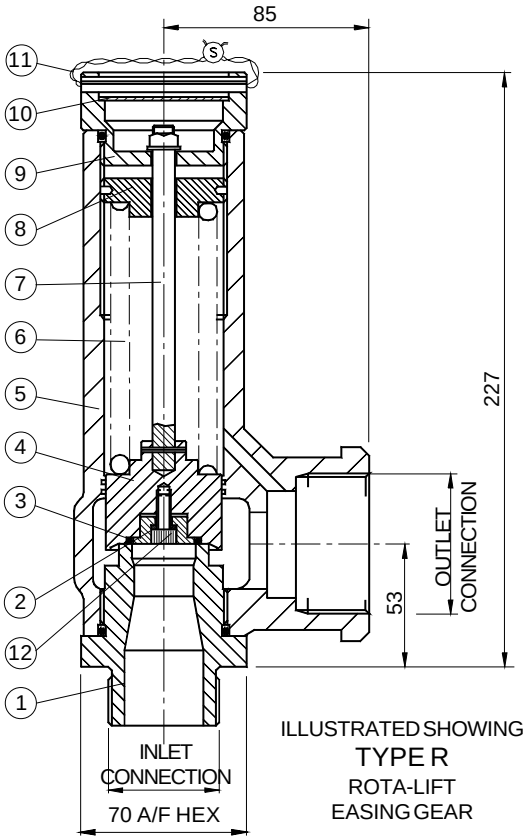
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10mm Nominal Bore METAL SEAL
DIRECT SPRING LOADED ENCLOSED
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COMPRESSED AIR, GASES & STEAM

ENCLOSED DISCHARGE
10mm NOMINAL BORE SERIES
TYPE 93610 BRASS
TYPE 94610 ST.STL.

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ILLUSTRATED SHOWING
TYPE R
ROTA-LIFT
EASING GEAR

PARTS LIST & MATERIAL SPECIFICATION

		67020	68020	69020
1	INLET SEAT	BRASS	ST.STL.	ST.STL.
2	SEAL RETAINER	BRASS	ST.STL.	ST.STL.
3	'O' RING	TO SUIT APPLICATION		
4	PLUNGER	BRASS	ST.STL.	ST.STL.
5	BODY	BRONZE	ST.STL.	BRONZE
6	SPRING	ST.STL		
7	SPINDLE	ST.STL		
8	ADJUSTER	BRASS		
9	CAP	BRASS		
10	NAMEPLATE	ALUMINIUM		
11	WIRE & SEAL	ST.STL AND LEAD		
12	SCREW	ST.STL.		

APPROVALS

P.E.D. 97/23/EC
Type examination module B, Cert. No. 2002/045/8923
Quality management system module D, Cert. No. EDS 0002011/01
Designed in accordance with BS 6759 Part 3 & ISO 4126-1:1991

TECHNICAL DATA

Relieving pressure	= Set pressure + 25%
Reseating pressure	= Set pressure - max 20%
Maximum set pressure	= 22 Bar.g
Minimum set pressure	= 3.3 Bar.g
Flow area	= 314mm²
Inlet bore diameter	= 20mm
Derated coefficient of discharge K_{dr}	= 0.57
Temperature Range	= Subject to seal material.

FOR FURTHER INFORMATION, CONVERSION FACTORS, INSTALLATION AND OPERATION INSTRUCTIONS ETC. SEE TECHNICAL INFORMATION SECTION.

FLOW CHART

- TO CALCULATE INTERMEDIATE FLOWS SEE TECHNICAL INFORMATION SECTION C.
- FOR GREATER FLOWS REFER TO 25mm BORE TYPE 67025 DATA SHEET, FOR LOWER FLOWS REFER TO 18mm BORE 67018 DATA SHEET

SET PRESSURE (Bar.g)	3.3	4	6	8	10	12	14	16	18	20	22
RATED DISCHARGE * CAPACITY IN ACCORDANCE WITH BS 6759, WATER AT 15°C (kg/hr)	18512	20384	24966	28828	32231	35308	38137	40770	43244	45583	47807

* DISCHARGING TO ATMOSPHERE

VALVE SELECTION CHART

Standard thread sizes shown, other sizes may be available

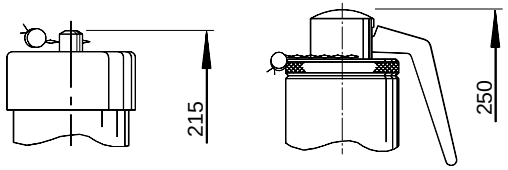
INLET CONNECTION	OUTLET CONNECTION	ORDERING CODE	TOP FITTING CODE		
			S	R	L
G 1 1/4 (1 1/4" BSP PARALLEL)	G2 (2" BSP PARALLEL)	67020A 69020A	1363	2163	3363
R 1 1/4 (1 1/4" BSP TAPER)	G2 (2" BSP PARALLEL)		1373	2173	3373

Example:
Ordering code 67020A 1363 is Sealed valve with 1 1/4" BSP Parallel inlet connection. 2" BSP Parallel outlet connection with Viton® seals, wirelocked no easing gear.
Seal material:
Last digit of ordering code calls up Viton® 'O' ring seal (since this is the most universal type).
When other material is required this changes to :

1. NITRILE
3. VITON®
5. NEOPRENE
6. ETHYLENE PROPYLENE
8. PERFLUOROELASTOMER

For advice on seal material selection refer to Technical Information Section A.

ALTERNATIVE TOP FITTING



TYPE S
SEALED
NO EASING GEAR

TYPE L
LEVER LIFT
EASING GEAR

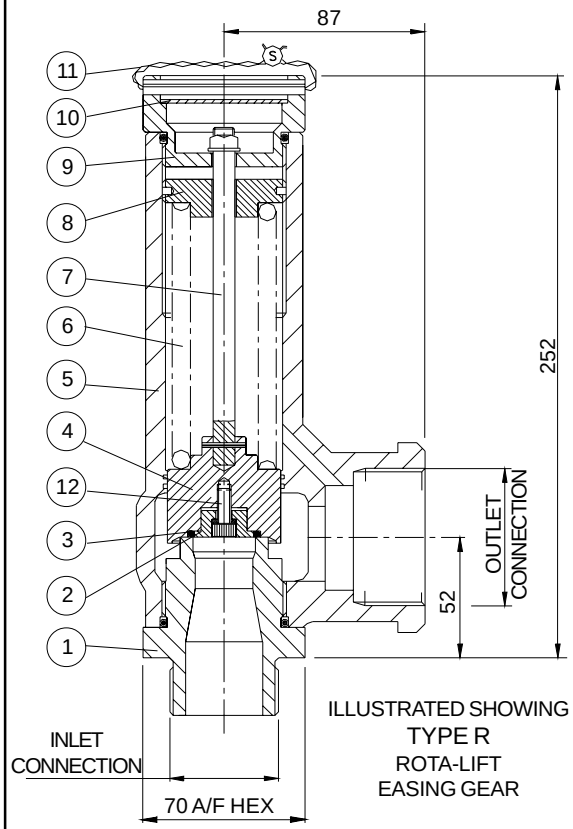
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20mm Nominal Bore
DIRECT SPRING LOADED ENCLOSED DISCHARGE SAFETY VALVE FOR LIQUIDS

ENCLOSED DISCHARGE
20mm NOM. BORE SERIES M/2
TYPE 67020
TYPE 68020
TYPE 69020

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ILLUSTRATED SHOWING
TYPE R
ROTA-LIFT
EASING GEAR

PARTS LIST & MATERIAL SPECIFICATION

		67025	68025	69025
1	INLET SEAT	BRASS	ST.STL.	ST. STL.
2	SEAL RETAINER	BRASS	ST.STL.	ST. STL.
3	'O' RING	TO SUIT APPLICATION		
4	PLUNGER	BRASS	ST.STL.	ST. STL.
5	BODY	BRONZE	ST.STL.	BRONZE
6	SPRING	ST.STL		
7	SPINDLE	ST.STL		
8	ADJUSTER	BRASS	ST.STL	BRASS
9	CAP	BRASS	ST.STL	BRASS
10	NAMEPLATE	ALUMINIUM		
11	WIRE & SEAL	ST.STL AND LEAD		
12	SCREW	ST.STL AND LEAD		

APPROVALS

P.E.D. 97/23/EC
Type examination module B, Cert. No. 2002/046/8923
Quality management system module D, Cert. No. EDS 0002011/01
Designed in accordance with BS 6759 Part 3 & ISO 4126-1:1991

TECHNICAL DATA

Relieving set pressure	= + 25%
Reseating set pressure	= - max 20% down to 3 Bar.g
	= Below 3 Bar.g = 0.6 Bar.g
Maximum set pressure	= 21.0 Bar.g
Minimum set pressure	= 5.65 Bar.g
Flow area	= 490.4 mm²
Inlet bore diameter	= 25 mm
Derated coefficient of discharge K_{dr}	= 0.56
Temperature Range	= -20°C to 200°C subject to seal material.

FOR FURTHER INFORMATION, CONVERSION FACTORS, INSTALLATION AND OPERATION INSTRUCTIONS ETC. SEE TECHNICAL INFORMATION SECTION.

FLOW CHART

- TO CALCULATE INTERMEDIATE FLOWS SEE TECHNICAL INFORMATION SECTION C.
- FOR GREATER FLOWS REFER TO SEETRU, FOR LOWER FLOWS REFER TO 20 mm BORE 67020 DATA SHEET

SET PRESSURE Bar.g	5.65	6	8	10	12	14	16	18	20	21
RATED DISCHARGE * CAPACITY IN ACCORDANCE WITH BS 6759, WATER AT 15°C (kg/hr)	37155	38289	44212	49431	54149	58487	62526	66319	69906	71701

* DISCHARGING TO ATMOSPHERE

VALVE SELECTION CHART

Standard thread sizes shown, other sizes may be available

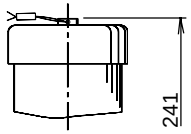
INLET CONNECTION	OUTLET CONNECTION	ORDERING CODE	TOP FITTING CODE		
			S	R	L
G 1 1/2 (1 1/2" BSP PARALLEL)	G 2 (2" BSP PARALLEL)	67025A 68025A 69025A	1393	2193	3393
R 1 1/2 (1 1/2" BSP TAPER)	G2 (2" BSP PARALLEL)		1403	2203	3403

Example:
Ordering code 67025A 1393 is Sealed Valve with 1 1/2"BSP parallel inlet connection, 2"BSP parallel outlet connection with Viton® seals, wirelocked no easing gear.
Seal material:
Last digit of ordering code calls up Viton® seal (since this is the most universal type).
When other material is required last digit changes to:

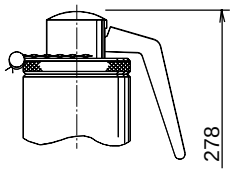
1. NITRILE
3. VITON®
5. NEOPRENE
6. ETHYLENE PROPYLENE

For advice on seal material selection refer to Technical Information Section A.

ALTERNATIVE TOP FITTING



TYPE S
SEALED
NO EASING GEAR



TYPE L
LEVER LIFT
EASING GEAR

SEETRU LIMITED

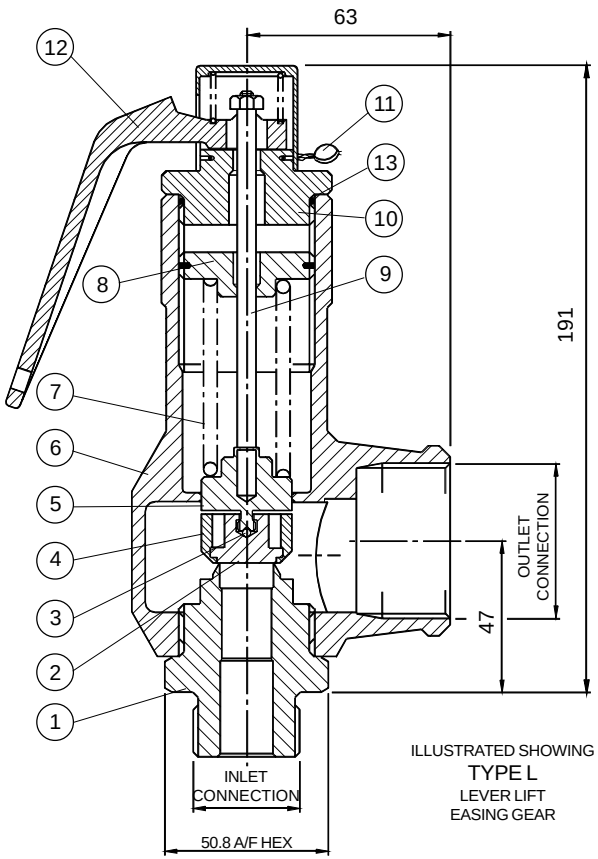
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25mm Nominal Bore
DIRECT SPRING LOADED ENCLOSED
DISCHARGE SAFETY VALVE FOR LIQUIDS

ENCLOSED DISCHARGE
25mm NOM. BORE SERIES M/2
TYPE 67025
TYPE 68025
TYPE 69025

EDITION E. 25.09.02

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ILLUSTRATED SHOWING
TYPE L
LEVER LIFT
EASING GEAR

PARTS LIST & MATERIAL SPECIFICATION

		93615	94615
1	SEAT	BRASS	ST.STL.
2	DISC	ST.STL. 316	ST.STL. 440B
3	BALL	ST.STL.	
4	DISC HOLDER	ST.STL.	
5	PLUNGER	ST.STL.	
6	BODY	ST.STL.	
7	SPRING	ST.STL.	
8	ADJUSTER	BRASS	ST.STL.
9	SPINDLE	ST.STL.	
10	CAP	BRASS	ST.STL.
		TYPE SL - ST.STL.	
11	WIRE & SEAL	ST.STL. & LEAD	
12	LEVER	BRASS	ST.STL.*
13	O'RING	TO SUIT APPLICATION	

* TYPE SL ONLY

APPROVALS

Designed in accordance with BS6759 (but not approved) & ISO 4126.
TÜV Approved:- Ref- TÜV.SV.98-1016.15.D/G.0,74p ; For 3-28 Bar.g. Below 3 Bar.g. see 'α_D vs Set Pressure' chart.
93615 type materials meet the requirements of BAM (Germany) for oxygen service.
P.E.D. 97/23/EC
Type examination module B, Cert. No. 01 202 111-B-00017
Quality management system module D, Cert. No. EDS 002011/01

TECHNICAL DATA

Relieving pressure	= Set pressure +10%, 0.1Bar.g. BELOW 1.0 Bar.g.
Reseating pressure	= Set pressure - 10%, 0.3 BAR.G. BELOW 3.0 BAR.G.
Maximum set pressure	= 28 Bar.g.
Minimum set pressure	= 0.3 Bar.g.
Flow area	= 177mm^2
Inlet bore diameter	= 15 mm
TÜV Derated coefficient of discharge α_D	= 0.74, BELOW 3.0 BAR.G. SEE 'α_D vs SET PRESSURE' CHART.

Leak tightness at 90% set pressure to API 527 and in accordance with BS6759 Part 3 1984, Table 9 Grade 2.
Greater leak tightness may be achieved on request.

Maximum temperature	= 250ºC Note: For sealed top fittings, max. temp. dependent on seal material.
Minimum temperature	= -196ºC subject to material specification.
Maximum permissible built up back pressure	= 10% of set pressure at or below which flow is not reduced.

Stable operation on flows down to 50% of valve rated capacity.
FOR FURTHER INFORMATION, INSTALLATION AND OPERATION INSTRUCTIONS, CONVERSION FACTORS ETC. SEE TECHNICAL INFORMATION SECTION.

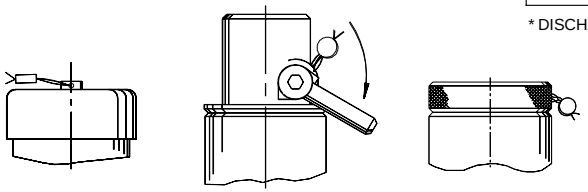
FLOW CHART

-TO CALCULATE INTERMEDIATE FLOWS SEE TECHNICAL INFORMATION SECTION
- FOR LOWER FLOWS REFER TO 10mm BORE TYPE 93610 DATA SHEET. FOR GREATER FLOWS REFER TO 20mm BORE TYPE 93620 DATA SHEET.

SET PRESSURE Bar.g	0.3	0.5	1.0	2.0	3	4	5	6	7	8	9	10	15	20	25	28
RATED DISCHARGE * CAPACITY IN ACCORDANCE WITH BS6759, AIR AT 15ºC AND 1013 mbar std. Litres/s	22.5	29.2	42.2	76.6	108	136	163	191	219	246	274	302	440	578	716	799
RATED DISCHARGE * CAPACITY IN ACCORDANCE WITH BS6759 PART 1, STEAM Kg/h	61.3	79.7	120.8	204.2	296	372	447	523	598	674	749	825	1202	1580	1958	2184
RATED DISCHARGE * CAPACITY IN ACCORDANCE WITH TUV, AIR AT 0ºC AND 1013 mbar Normal m^3/h	75.8	103.8	155.3	270.1	384	482	580	678	776	874	972	1070	1560	2049	2539	2833
RATED DISCHARGE * CAPACITY IN ACCORDANCE WITH TUV, STEAM Kg/h	63.3	82.5	121.7	213.4	299	373	446	520	592	666	738	812	1174	1535	1900	2116

* DISCHARGING TO ATMOSPHERE

ALTERNATIVE TOP FITTINGS



TYPE S
SEALED
NO EASING GEAR

TYPE SL
SEALED LEVER
EASING GEAR

TYPE R
ROTA-LIFT
EASING GEAR

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15mm Nominal Bore METAL SEAL
DIRECT SPRING LOADED ENCLOSED
DISCHARGE SAFETY VALVE FOR
COMPRESSED AIR, GASES & STEAM

ENCLOSED DISCHARGE
15mm NOMINAL BORE SERIES
TYPE 93615 BRASS
TYPE 94615 ST.STL.

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VALVE SELECTION CHART

Standard thread sizes shown, other sizes may be available

INLET CONNECTION	OUTLET CONNECTION	ORDERING CODE	TOP FITTING CODE			
			R	S	SL	L
G 3/4 (3/4" BSP PARALLEL MALE)	G 1 1/2 (1 1/2" BSP PARALLEL)	93615A 94615A	210	130	410	330
R 3/4 (3/4" BSP TAPER MALE)			211	131	411	331
G 3/4 (3/4" BSP PARALLEL FEMALE)		93615D 94615D	210	130	410	330

Example 1:
Ordering code 93615A 210 3 is brass seated, Rota lift type R, with 3/4" BSP parallel MALE inlet connection, 1 1/2" BSP parallel outlet connection, with Viton® o'ring.

Example 2:
Ordering code 93615D 210 3 is brass seated, Rota lift type R, with 3/4" BSP parallel FEMALE inlet connection, 1 1/2" BSP parallel outlet connection, with Viton® o'ring.

O'RING SEAL CHART

O'RING MATERIAL	10th DIGIT	MAX. STATIC TEMP. °C	MIN. STATIC TEMP. °C
NITRILE	1	150	-30
VITON®	3	250	-20
SILICONE	4	250	-50
NEOPRENE	5	120	-40
E.PROPYLENE	6	150	-40
* P.T.F.E.	7	250	-196

Note:
Digits '1 - 7' indicates the required o'ring material dependent on the maximum / minimum static temperature.

Example:
Ordering code 93615A 410 3 is brass seated, Sealed leverlift type SL, with 3/4"BSP parallel MALE inlet connection, 1 1/2" BSP parallel outlet connection, with Viton® o'ring seals.

* For cryogenic service type 'S' valves only.
TYPE 94615 VALVES ARE NOT SUITABLE FOR CRYOGENIC SERVICE. USE 93615 TYPE 'S'.

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15mm Nominal Bore METAL SEAL DIRECT SPRING LOADED ENCLOSED DISCHARGE SAFETY VALVE FOR COMPRESSED AIR, GASES & STEAM

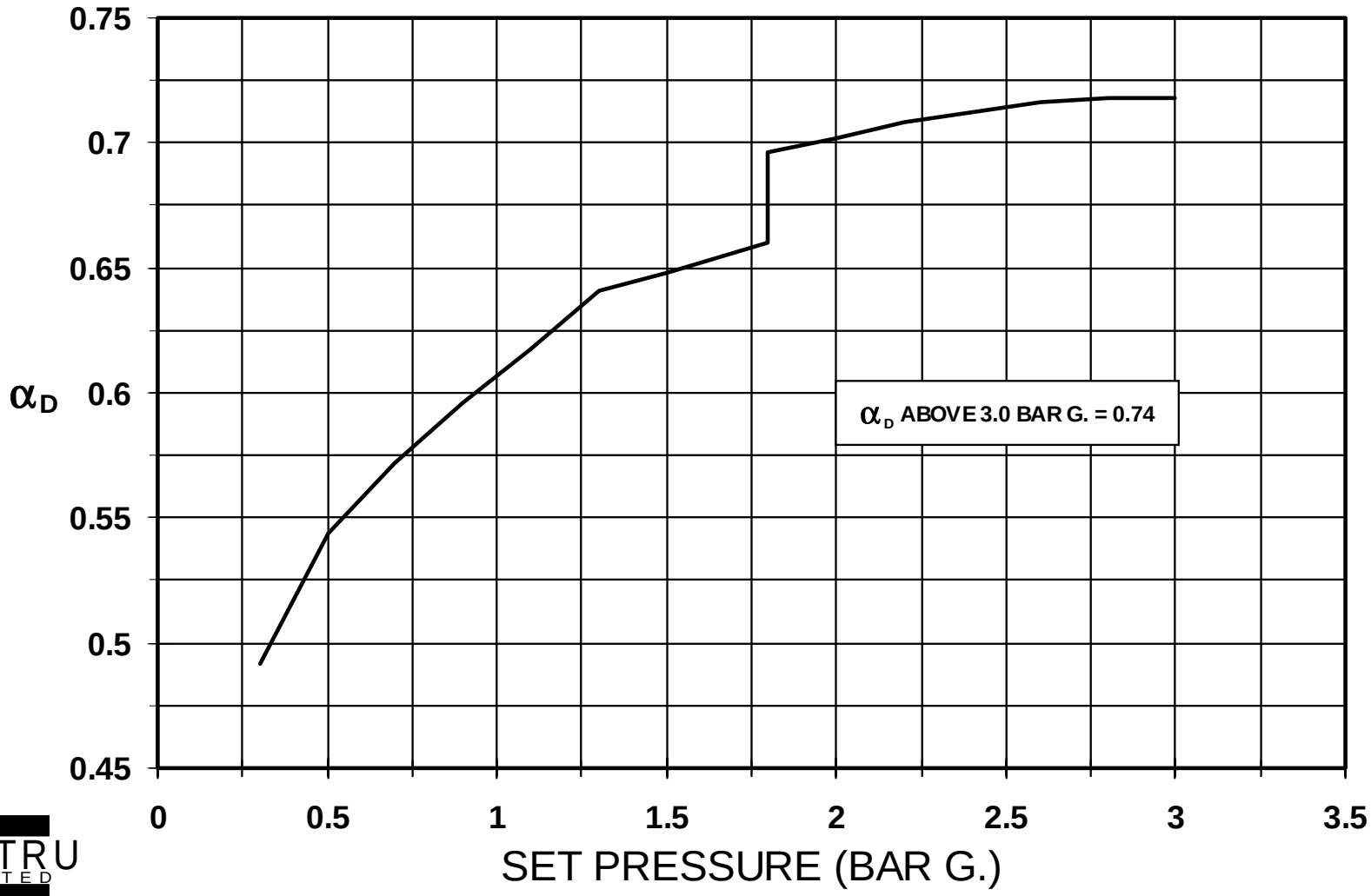
ENCLOSED DISCHARGE
15mm NOMINAL BORE SERIES
TYPE 93615 BRASS
TYPE 94615 ST.STL.

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α_D vs SET PRESSURE CHART

SEETRU SAFETY RELIEF VALVE 93615 / 94615.

0.3 to 3.0 BAR G.



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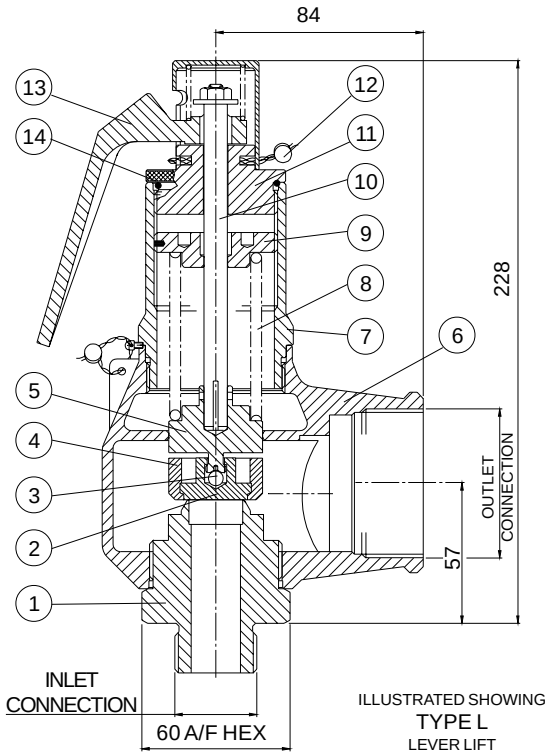
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15mm Nominal Bore METAL SEAL
DIRECT SPRING LOADED ENCLOSED
DISCHARGE SAFETY VALVE FOR
COMPRESSED AIR, GASES & STEAM

ENCLOSED DISCHARGE
15mm NOMINAL BORE SERIES

TYPE 93615 BRASS
TYPE 94615 ST.STL.

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ILLUSTRATED SHOWING
TYPE L
LEVER LIFT
EASING GEAR

PARTS LIST & MATERIAL SPECIFICATION

		93620	94620
1	SEAT	BRASS	ST.STL.
2	DISC	ST.STL. 316	ST.STL. 440B
3	BALL	ST.STL.	
4	DISC HOLDER	ST.STL.	
5	PLUNGER	ST.STL.	
6	BODY	ST.STL.	
7	SPRING HOUSING	BRASS	ST.STL.
8	SPRING	ST.STL.	
9	ADJUSTER	BRASS	ST.STL.
10	SPINDLE	ST.STL.	
11	CAP	BRASS	ST.STL.
12	WIRE & SEAL	ST.STL. & LEAD	
13	LEVER	BRASS	ST.STL. *
14	'O'RING	TO SUIT APPLICATION	

* TYPE SL ONLY.

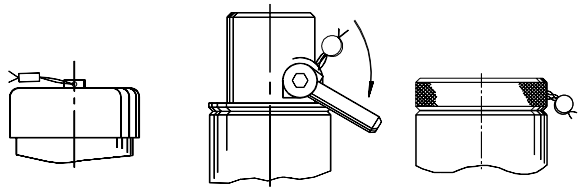
APPROVALS

Designed in accordance with BS 6759 (but not approved) & ISO 4126. TÜV Approved:-
Ref- TÜV.SV.98-1016.20.D/G.0,80.p ; For 4-28 Bar.g. Below 4 Bar.g. see 'α_D vs Set Pressure' chart.
93620 type materials meet the requirements of BAM (Germany) for oxygen service.
P.E.D. 97/23/EC
Type examination module B, Cert. No. 01 202 111-B-00017
Quality management system module D, Cert No. EDS 0002011/01

TECHNICAL DATA

Relieving pressure = Set pressure +10%, 0.1 Bar.g. below 1.0 Bar.g.
Reseating pressure = Set pressure - 10%, 0.3 Bar.g. below 3.0 Bar.g.
Maximum set pressure = 28.0 Bar.g.
Minimum set pressure = 0.3 Bar.g.
Flow area = 314 mm^2
Inlet bore diameter = 20 mm
TÜV Derated coefficient of discharge α_D = 0.80, Below 4.0 Bar.g. see 'α_D vs Set Pressure' chart.
Leak tightness at 90% set pressure to API 527 and in accordance with BS6759 Part 3 1984, Table 9 Grade 2. Greater leak tightness may be achieved on request.
Maximum temperature = 250°C Note: For sealed top fittings, max. temp. dependent on seal material.
Minimum temperature = -196°C subject to material specification.
Maximum permissible built up back pressure =10% of set pressure at or below which flow is not reduced.
Stable operation on flows down to 50% of valve rated capacity.
FOR FURTHER INFORMATION, INSTALLATION AND OPERATION INSTRUCTIONS, CONVERSION FACTORS ETC. SEE TECHNICAL INFORMATION SECTION.

ALTERNATIVE TOP FITTINGS



TYPE S
SEALED
NO EASING GEAR

TYPE SL
SEALED LEVER
EASING GEAR

TYPE R
ROTA-LIFT
EASING GEAR

FLOW CHART

-TO CALCULATE INTERMEDIATE FLOWS SEE TECHNICAL INFORMATION SECTION

- FOR GREATER FLOWS REFER TO 25mm BORE TYPE 93625 DATA SHEET. FOR LOWER FLOWS REFER TO 15mm BORE TYPE 93615 DATA SHEET.

SET PRESSURE Bar.g	0.3	0.5	1.0	2.0	3	4	5	6	7	8	9	10	15	20	25	28
RATED DISCHARGE * CAPACITY IN ACCORDANCE WITH BS6759, AIR AT 15°C AND 1013 mbar std. Litres/s	52.2	66.8	95	157.6	208	262	315	368	421	474	527	580	846	1112	1378	1537
RATED DISCHARGE * CAPACITY IN ACCORDANCE WITH BS6759 PART 1, STEAM Kg/h	140	182	275.7	429.8	569	714.2	859.3	1004.5	1149.6	1294.8	1439.9	1585	2310.8	3036.5	3762.2	4197.6
RATED DISCHARGE * CAPACITY IN ACCORDANCE WITH TUV, AIR AT 0°C AND 1013 mbar Normal m³/h	174.4	238	354	553.8	738.4	926.7	1115	1303.3	1491.6	1679.9	1868.3	2056.6	2998.2	3939.8	4881.4	5446.4
RATED DISCHARGE * CAPACITY IN ACCORDANCE WITH TUV, STEAM Kg/h	145.3	188.7	278.4	437.8	576.3	718	859.8	1000	1141.8	1282.8	1423.1	1562.6	2261.3	2956.8	3654.5	4077.6

* DISCHARGE TO ATMOSPHERE

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20mm Nominal Bore METAL SEAL
DIRECT SPRING LOADED ENCLOSED
DISCHARGE SAFETY VALVE FOR
COMPRESSED AIR OR GASES

ENCLOSED DISCHARGE
20mm NOMINAL BORE SERIES

TYPE 93620 BRASS
TYPE 94620 ST.STL.

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VALVE SELECTION CHART

Standard thread sizes shown, other sizes may be available

INLET CONNECTION	OUTLET CONNECTION	ORDERING CODE	TOP FITTING CODE			
			S	SL	L	R
G 1 (1" BSP PARALLEL MALE)	G 2 (2" BSP PARALLEL)	93620A 94620A	133	413 #	333 #	213
R 1 (1" BSP TAPER MALE)			134	414 #	334 #	214
G 3/4 (3/4" BSP PARALLEL FEMALE)		93620D 94620D	130	410 #	330 #	210

Example 1: Ordering code 93620A 333 0 is brass seated,
Lever lift type 'L', with 1" BSP parallel MALE inlet connection,
2" BSP parallel outlet connection.

Example 2: Ordering code 93620D 330 0 is brass seated,
Lever lift type 'L', with 3/4" BSP parallel FEMALE inlet connection,
2" BSP parallel outlet connection.

O'RING SEAL CHART

O'RING MATERIAL	10th DIGIT	MAX. STATIC TEMP. °C	MIN. STATIC TEMP. °C
NITRILE	1	150	-30
VITON®	3	250	-20
SILICONE	4	250	-50
NEOPRENE	5	120	-40
E.PROPYLENE	6	150	-40
* P.T.F.E.	7	250	-196

Note: For valve type 'L', o'rings not fitted. '0' indicates that no o'rings are required.
For valve types 'S' & 'SL', digits '1 - 7' indicates the required o'ring material dependent on the maximum / minimum static temperature.

Example: Ordering code 93620A 413 3 is brass seated, Sealed leverlift type 'SL', with 1"BSP parallel MALE inlet connection, 2" BSP parallel outlet connection, with Viton® o'ring seals.

LEVER LIFTING VALVES

FOR 94620 VALVES, SEALED LEVER TYPE 'SL' AVAILABLE ONLY.
FOR 93620 VALVES, OPEN LEVER TYPE 'L' AVAILABLE ONLY.

* FOR CRYOGENIC SERVICE TYPE 'S' VALVES ONLY.

TYPE 94620 VALVES ARE NOT SUITABLE FOR CRYOGENIC SERVICE. USE 93620 TYPE 'S'.

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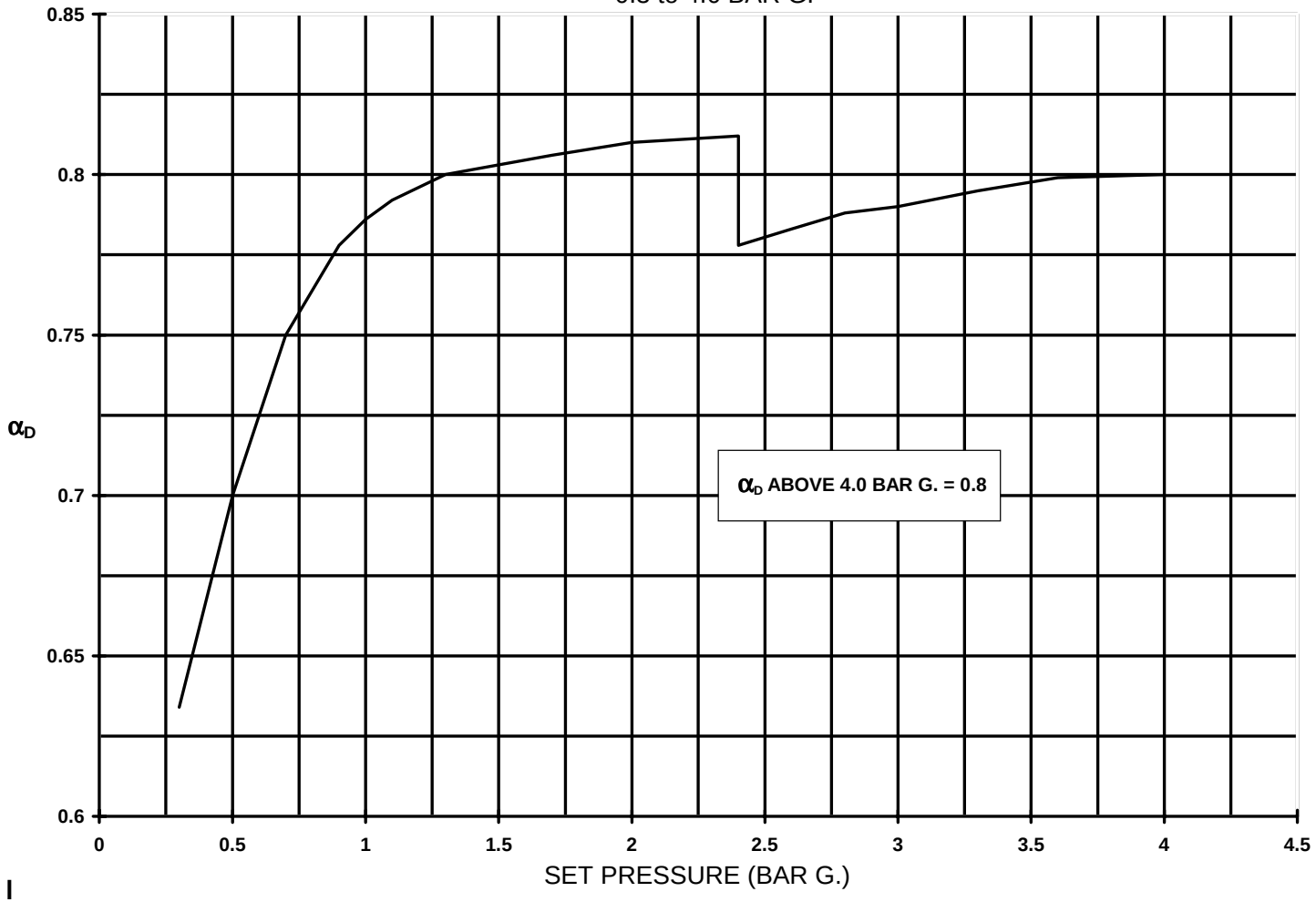
20mm Nominal Bore METAL SEAL DIRECT SPRING LOADED ENCLOSED DISCHARGE SAFETY VALVE FOR COMPRESSED AIR OR GASES

ENCLOSED DISCHARGE
20mm NOMINAL BORE SERIES

TYPE 93620 BRASS
TYPE 94620 ST.STL.

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α_D vs SET PRESSURE CHART
SEETRU SAFETY RELIEF VALVE 93620 / 94620
0.3 to 4.0 BAR G.



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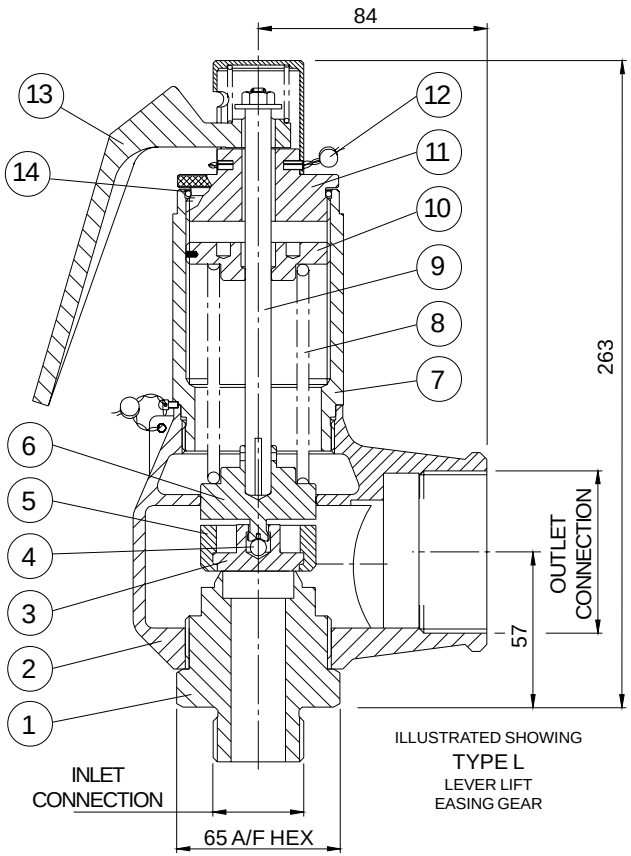
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20mm Nominal Bore METAL SEAL
DIRECT SPRING LOADED ENCLOSED
DISCHARGE SAFETY VALVE FOR
COMPRESSED AIR OR GASES

ENCLOSED DISCHARGE
20mm NOMINAL BORE SERIES

TYPE 93620 BRASS
TYPE 94620 ST.STL.

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ILLUSTRATED SHOWING
TYPE L
LEVER LIFT
EASING GEAR

PARTS LIST & MATERIAL SPECIFICATION

		93625	94625
1	SEAT	BRASS	ST.STL.
2	BODY	ST.STL.	
3	DISC	ST.STL. 316	ST.STL. 440B
4	BALL	ST.STL.	
5	DISC HOLDER	ST.STL.	
6	PLUNGER	ST.STL.	
7	SPRING HOUSING	BRASS	ST.STL.
8	SPRING	ST.STL.	
9	SPINDLE	ST.STL.	
10	ADJUSTER	BRASS	ST.STL.
11	CAP	BRASS	ST.STL.
12	WIRE & SEAL	ST.STL. & LEAD	
13	LEVER	BRASS	ST.STL. *
14	'O'RING	TO SUIT APPLICATION	

* TYPE SL ONLY.

APPROVALS

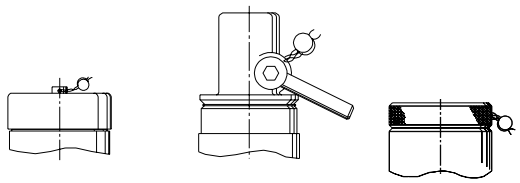
Designed in accordance with BS6759 (but not approved) & ISO 4126. TÜV Approved:-
Ref.- TÜV.SV.98-1016.25.D/G.0,80.p = 4 - 19 BAR.G.
Ref.- TÜV.SV.98-1016.25.D/G.0,76.p = 19 - 20 BAR.G. Below 4 Bar.g. see 'α_D vs Set Pressure' chart.
93625 type materials meet the requirements of BAM (Germany) for oxygen service,
P.E.D. 97/23/EC
Type examination module B, Cert. No. 01 202 111-B-00017
Quality management system module D, Cert. No. EDS 0002011/01.

TECHNICAL DATA

Relieving pressure	= Set pressure +10%, 0.1 Bar.g. below 1.0 Bar.g.
Reseating pressure	= Set pressure -10%, 0.3 Bar.g. below 3.0 Bar.g.
Maximum set pressure	= 20.0 Bar.g.
Minimum set pressure	= 0.3 Bar.g.
Flow area	= 491 mm^2
Inlet bore diameter	= 25 mm
TÜV Derated coefficient of discharge α_D	= 0.8 From 4 - 19 Bar.g. 0.76 From 19 - 20 Bar.g. = Below 4 Bar.g. see 'α_D vs Set Pressure' chart.

Leak tightness at 90% set pressure to API 527 and in accordance with BS 6759 Part 3 1984, Table 9 Grade 2.
Greater leak tightness may be achieved on request.
Maximum temperature = 250°C Note: For sealed top fittings, max. temp. dependent on seal material.
Minimum temperature = -196°C subject to material specification.
Maximum permissible built up back pressure =10% of set pressure at or below which flow is not reduced.
Stable operation on flows down to 50% of valve rated capacity.
FOR FURTHER INFORMATION, INSTALLATION AND OPERATIONS, CONVERSION FACTORS ETC. SEE TECHNICAL INFORMATION.

ALTERNATIVE TOP FITTINGS



TYPE S
SEALED
NO EASING GEAR

TYPE SL
SEALED LEVER
EASING GEAR

TYPE R
ROTA-LIFT
EASING GEAR

FLOW CHART

-TO CALCULATE INTERMEDIATE FLOWS SEE TECHNICAL INFORMATION SECTION
-FOR LESSER FLOWS REFER TO 20mm BORE TYPE 93620 DATA SHEET.

SET PRESSURE Bar.g	0.3	0.5	1.0	2.0	3	4	5	6	7	8	9	10	15	20
RATED DISCHARGE * CAPACITY IN ACCORDANCE WITH BS6759, AIR AT 15°C AND 1013 mbar std. Litres/s	66.0	85.6	128.8	238.3	325.6	408.6	491.7	574.7	657.8	740.8	823.9	906.9	1322.2	1650.6
RATED DISCHARGE * CAPACITY IN ACCORDANCE WITH BS6759 PART 1, STEAM Kg/h	176.8	233.2	351.8	650.9	889.2	1115.9	1342.7	1569.5	1796.3	2023.1	2249.9	2476.6	3610.6	4507.3
RATED DISCHARGE * CAPACITY IN ACCORDANCE WITH TUV, AIR AT 0°C AND 1013 mbar Normal m^3/h	220.2	304.8	458.7	837.9	1153.7	1447.9	1742.2	2036.4	2330.7	2624.9	2919.2	3213.4	4684.7	5848.1
RATED DISCHARGE * CAPACITY IN ACCORDANCE WITH TUV, STEAM Kg/h	182.3	242.2	361.9	663	900.6	1121.9	1343.4	1562.5	1784.0	2004.4	2223.6	2441.6	3533.3	4388.9

* DISCHARGE TO ATMOSPHERE

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25mm Nominal Bore
DIRECT SPRING LOADED ENCLOSED DISCHARGE SAFETY VALVE FOR COMPRESSED AIR OR GASES

ENCLOSED DISCHARGE
25mm NOMINAL BORE SERIES

TYPE 93625 BRASS
TYPE 94625 ST.STL.

EDITION C. 11.09.02

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VALVE SELECTION CHART

Standard thread sizes shown, other sizes mat by available.

INLET CONNECTION	OUTLET CONNECTION	ORDERING CODE	TOP FITTING CODE			
			S	SL	L	R
G 1 (1" BSP PARALLEL MALE)	G 2 (2" BSP PARALLEL)	93625A 94625A	133	413 #	333 #	213
R 1 (1" BSP TAPER MALE)			134	414 #	334 #	214
G 1 (1" BSP PARALLEL FEMALE)		93625D 94625D	133	413 #	333 #	213

Example 1: Ordering code 93625A 333 0 is brass seated,
Lever lift type 'L', with 1" BSP parallel MALE inlet connection,
2" BSP parallel outlet connection.

Example 2: Ordering code 93625D 333 0 is brass seated,
Lever lift type 'L', with 1" BSP parallel FEMALE inlet connection,
2" BSP parallel outlet connection.

LEVER LIFTING VALVES

FOR 94625 VALVES, SEALED LEVER TYPE 'SL' AVAILABLE ONLY.
FOR 93625 VALVES, OPEN LEVER TYPE 'L' AVAILABLE ONLY.

O'RING SEAL CHART

	O'RING MATERIAL	10th DIGIT	MAX. STATIC TEMP. °C	MIN. STATIC TEMP. °C
	NITRILE	1	150	-30
	VITON®	3	250	-20
	SILICONE	4	250	-50
	NEOPRENE	5	120	-40
	E.PROPYLENE	6	150	-40
*	P.T.F.E.	7	250	-196

Note: For valve type 'L', o'rings not fitted. '0' indicatesthat no o'rings are required.
For valve type 'S' &' SL', digits '1 -7' indicates the required o'ring material dependent on the maximum /minimum static temperature.

Example: Ordering code 93625A 413 3 is brass seated,
Sealed leverlift type 'SL', with 1" BSP parallel MALE inlet connection,
2" BSP parallel outlet connection, with Viton® o'ring seals.

* FOR CRYOGENIC SERVICE TYPE 'S' VALVES ONLY.
TYPE 94625 VALVES ARE NOT SUITABLE FOR CRYOGENIC SERVICE. USE 93625 TYPE 'S'.

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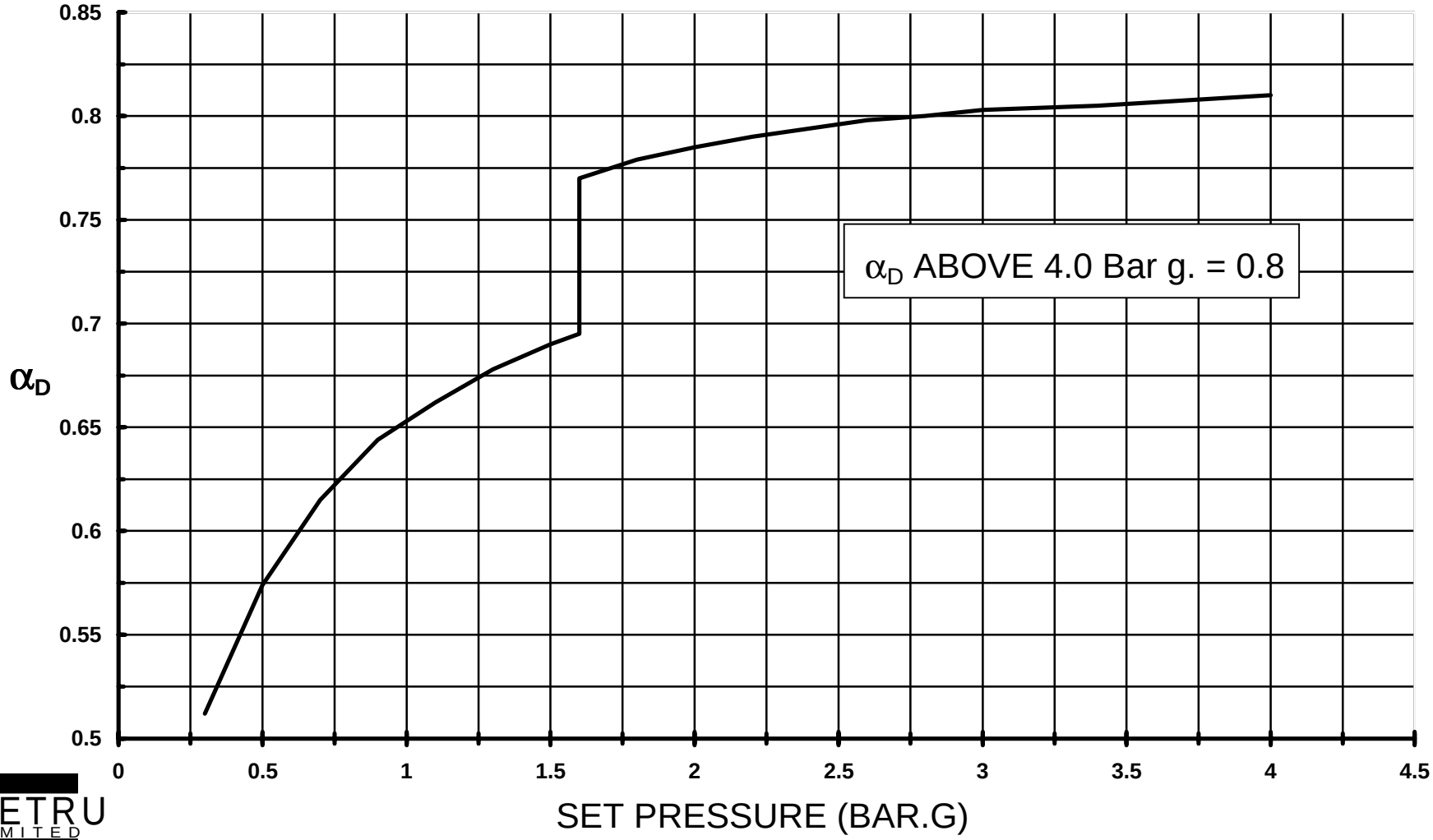
25mm Nominal Bore
DIRECT SPRING LOADED ENCLOSED DISCHARGE SAFETY VALVE FOR COMPRESSED AIR OR GASES

ENCLOSED DISCHARGE
25mm NOMINAL BORE SERIES

TYPE 93625 BRASS
TYPE 94625 ST.STL.

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α_D vs SET PRESSURE CHART
SEETRU SAFETY RELIEF VALVE 93625/94625.
0.3 to 4.0 BAR G.



SHEET 3 OF 3 SHEETS

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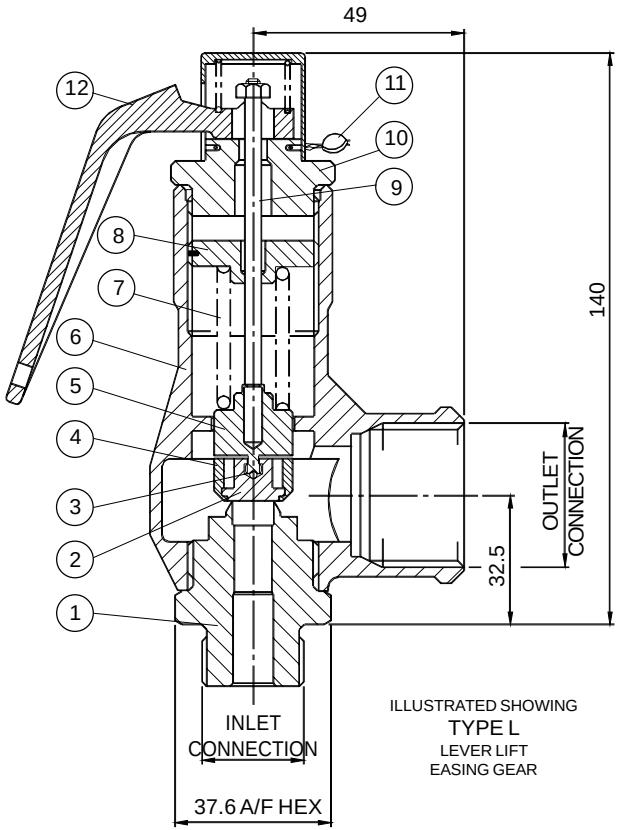
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25mm Nominal Bore
DIRECT SPRING LOADED ENCLOSED
DISCHARGE SAFETY VALVE FOR
COMPRESSED AIR OR GASES

ENCLOSED DISCHARGE
25mm NOMINAL BORE SERIES

TYPE 93625 BRASS
TYPE 94625 ST.STL.

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ILLUSTRATED SHOWING
TYPE L
LEVER LIFT
EASING GEAR

PARTS LIST AND MATERIAL SPECIFICATION

		97010	98010
1	SEAT	BRASS	ST.STL.
2	DISC	ST.STL. 316	ST.STL. 440B
3	BALL	ST.STL.	
4	DISC HOLDER	ST.STL.	
5	PLUNGER	ST.STL.	
6	BODY	ST.STL.	
7	SPRING	ST.STL.	
8	ADJUSTER	BRASS	ST.STL.
9	SPINDLE	ST.STL.	
10	CAP	BRASS	ST.STL.
11	WIRE & SEAL	ST.STL. & LEAD	
12	LEVER	BRASS	ST.STL.*

* TYPE SL ONLY

APPROVALS

P.E.D. 97/23/EC
Type examination module B, Cert No. 2003/04/9274
Quality examination system module D, Cert No. EDS 0002011/01
Designed in accordance with BS 6759 and ISO 4126-1:1991.

TECHNICAL DATA

Relieving pressure	= Set Pressure +10%
Reseating pressure	= Set Pressure -20% or 0.6 below 3 Bar.g.
Maximum set pressure	= 28 Bar.g.
Minimum set pressure	= 0.3 Bar.g.
Flow area	= 78.5 mm^2
Inlet bore diameter	= 10 mm

Derated coefficient discharge of water below 100°C K_{dr} = @ 10% = 0.48
Leak tightness at 90% set pressure to API 527 and in accordance with BS6759 Part 3 1984, Table 9 Grade 2. Greater leak tightness may be achieved on request.
Maximum temperature = 250°C Note: For sealed top fittings, max. temp. dependent on seal material.
FOR FURTHER INFORMATION, INSTALLATION AND OPERATION INSTRUCTIONS, CONVERSION FACTORS ETC. SEE TECHNICAL INFORMATION SECTION.

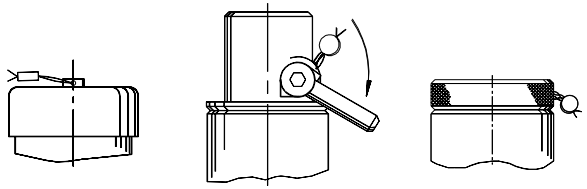
FLOW CHART

- TO CALCULATE INTERMEDIATE FLOWS SEE TECHNICAL INFORMATION SECTION
- FOR GREATER FLOWS REFER TO 15mm BORE TYPE 97015 DATA SHEET .

SET PRESSURE Bar.g	3	4	5	6	7	8	9	10	15	20	25	28
RATED DISCHARGE * CAPACITY IN ACCORDANCE WITH BS6759, WATER BELOW 100°C AT 10% ACCUMULATION (Litres/min)	58	67	74	82	89	95	100	106	130	150	167	177

* DISCHARGING TO ATMOSPHERE

ALTERNATIVE TOP FITTINGS



TYPE S
SEALED
NO EASING GEAR

TYPE SL
SEALED LEVER
EASING GEAR

TYPE R
ROTA-LIFT
EASING GEAR

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10mm Nominal Bore METAL SEAL
DIRECT SPRING LOADED ENCLOSED
DISCHARGE SAFETY VALVE FOR LIQUIDS

ENCLOSED DISCHARGE
10mm NOMINAL BORE SERIES
TYPE 97010 BRASS
TYPE 98010 ST.STL.

EDITION E. 24.09.04

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VALVE SELECTION CHART

Standard thread sizes shown, other sizes may be available

INLET CONNECTION	OUTLET CONNECTION	ORDERING CODE	TOP FITTING CODE			
			R	S	SL	L
G 1/2 (1/2" BSP PARALLEL MALE)	G 1 (1" BSP PARALLEL)	97010A 98010A	207	127	407	327
R 1/2 (1/2" BSP TAPER MALE)			208	128	408	328
G 1/2 (1/2" BSP PARALLEL FEMALE)		97010D 98010D	207	127	407	327

Example 1: Ordering code 97010A 207 0 is Brass seated, Rota lift type R, with 1/2" BSP parallel MALE inlet connection, 1" BSP parallel outlet connection.

Example 2: Ordering code 97010D 207 0 is Brass seated, Rota lift type R, with 1/2" BSP parallel FEMALE inlet connection, 1" BSP parallel outlet connection.

O'RING SEAL CHART

O'RING MATERIAL	10th DIGIT	MAX. STATIC TEMP. ^{O}C	MIN. STATIC TEMP. ^{O}C
NITRILE	1	150	-30
VITON®	3	250	-20
SILICONE	4	250	-50
NEOPRENE	5	120	-40
E.PROPYLENE	6	150	-40

Note: For valve types 'L' & 'R' O'rings not fitted. '0' indicates that no 'O'rings are required. For valve types 'S' & 'SL', digits '1 - 6' indicates the required 'O'ring material dependent on the maximum / minimum static temperature.

Example: Ordering code 97010A 4073 is a brass seated, Sealed lever lift type SL, 1/2" BSP parallel MALE inlet connection, 1" BSP parallel outlet connection, with Viton® 'O'ring seals.

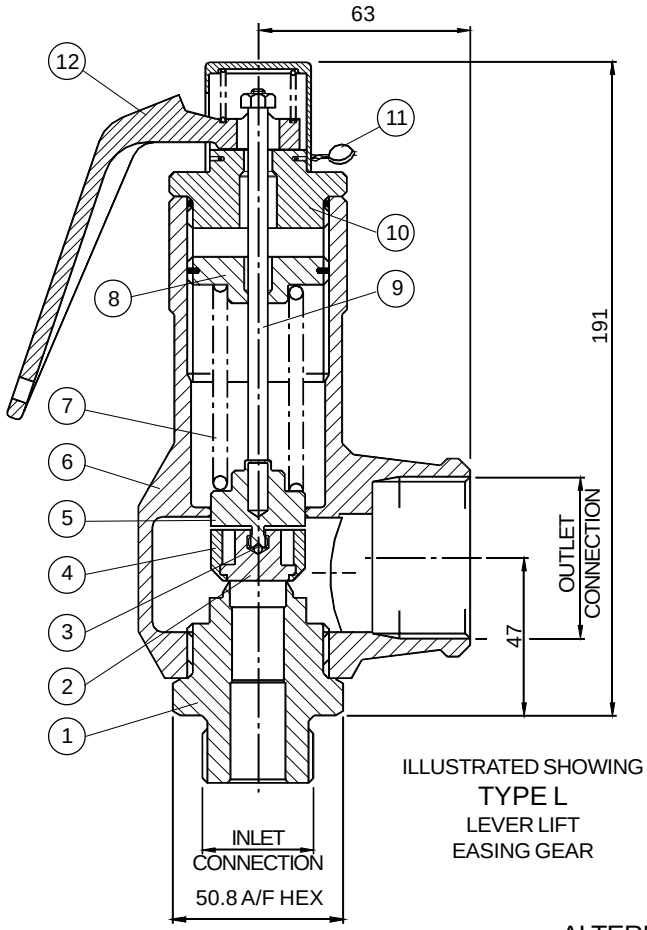
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DISCHARGE SAFETY VALVE FOR LIQUIDS

ENCLOSED DISCHARGE
10mm NOMINAL BORE SERIES
TYPE 97010 BRASS
TYPE 98010 ST.STL.

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ILLUSTRATED SHOWING
TYPE L
LEVER LIFT
EASING GEAR

PARTS LIST AND MATERIAL SPECIFICATION

		97015	98015
1	SEAT	BRASS	ST.STL.
2	DISC	ST.STL. 316	ST.STL. 440B
3	BALL	ST.STL.	
4	DISC HOLDER	ST.STL.	
5	PLUNGER	ST.STL.	
6	BODY	ST.STL.	
7	SPRING	ST.STL.	
8	ADJUSTER	BRASS	ST.STL.
9	SPINDLE	ST.STL.	
10	CAP	BRASS	ST.STL.
11	WIRE & SEAL	ST.STL. & LEAD	
12	LEVER	BRASS	ST.STL.*

* TYPE SL ONLY

APPROVALS

P.E.D. 97/23/EC
Type examination module B, Cert. No. 2003/03/9274
Quality examination system module D, Cert. No. EDS 0002011/01
Designed in accordance with BS6759 and ISO 4126.

TECHNICAL DATA

Relieving pressure	= Set pressure +10%
Reseating pressure	= Set pressure -20% or 0.6 Bar.g below 3 Bar.g.
Maximum set pressure	= 33 Bar.g.
Minimum set pressure	= 0.3 Bar.g.
Flow area	= 177mm^2
Inlet bore diameter	= 15 mm
Derated coefficient discharge of water below 100°C K_{dr}	= @ 10% = 0.54

Leak tightness at 90% set pressure to API 527 and in accordance with BS6759 Part 3 1984, Table 9 Grade 2. Greater leak tightness may be achieved on request.
Maximum temperature = 250°C Note: For sealed top fittings, max. temp. dependent on seal material.
FOR FURTHER INFORMATION, INSTALLATION AND OPERATION INSTRUCTIONS, CONVERSION FACTORS ETC. SEE TECHNICAL INFORMATION SECTION.

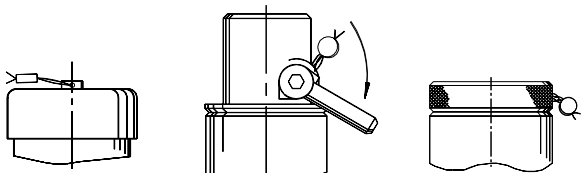
FLOW CHART

- TO CALCULATE INTERMEDIATE FLOWS SEE TECHNICAL INFORMATION SECTION
- FOR LOWER FLOWS REFER TO 10mm BORE TYPE 97010 DATA SHEET.

SET PRESSURE Bar.g	3	4	5	6	7	8	9	10	15	20	25	28
RATED DISCHARGE * CAPACITY IN ACCORDANCE WITH BS6759, WATER BELOW 100°C AT 10% ACCUMULATION (Litres/min)	58	67	74	82	89	95	100	106	130	150	167	177

* DISCHARGING TO ATMOSPHERE

ALTERNATIVE TOP FITTINGS



TYPE S
SEALED
NO EASING GEAR

TYPE SL
SEALED LEVER
EASING GEAR

TYPE R
ROTA-LIFT
EASING GEAR

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DISCHARGE SAFETY VALVE FOR LIQUIDS

ENCLOSED DISCHARGE
15mm NOMINAL BORE SERIES
TYPE 97015 BRASS
TYPE 98015 ST.STL.

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VALVE SELECTION CHART

Standard thread sizes shown, other sizes may be available

INLET CONNECTION	OUTLET CONNECTION	ORDERING CODE	TOP FITTING CODE			
			R	S	SL	L#
G 3/4 (3/4" BSP PARALLEL MALE)	G 1 1/2 (1 1/2" BSP PARALLEL)	97015A 98015A	210	130	410	330
R 3/4 (3/4" BSP TAPER MALE)			211	131	411	331
G 3/4 (3/4" BSP PARALLEL FEMALE)		97015D 98015D	210	130	410	330

Example 1: Ordering code 97015A 210 0 is brass seated,
Rota lift type R, with 3/4" BSP parallel MALE inlet connection,
1 1/2" BSP parallel outlet connection.

Example 2: Ordering code 97015D 210 0 is brass seated,
Rota lift type R, with 3/4" BSP parallel FEMALE inlet connection,
1 1/2" BSP parallel outlet connection.

NOT AVAILABLE ON 98015

O'RING SEAL CHART

O'RING MATERIAL	10th DIGIT	MAX. STATIC TEMP. ^{O}C	MIN. STATIC TEMP. ^{O}C
NITRILE	1	150	-30
VITON®	3	250	-20
SILICONE	4	250	-50
NEOPRENE	5	120	-40
E.PROPYLENE	6	150	-40

Notes: For valve types 'L' & 'R', 'O'rings not fitted. '0' indicates that no 'O'rings are required.
For valve types 'S' & 'SL' digits '1 - 6' indicates the required 'O'ring material dependent on the maximum / minimum static temperature.

Example: Ordering code 97015A 4103 is brass seated,
Sealed leverlift type SL, with 3/4" BSP parallel MALE inlet connection, 1 1/2" BSP parallel outlet connection, with Viton® 'O'ring seals.

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ENCLOSED DISCHARGE
15mm NOMINAL BORE SERIES
TYPE 97015 BRASS
TYPE 98015 ST.STL.

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