

# Series VBR, with integrated overflow valve and bypass

1.3

## Technical selection chart; scale drawings

Direction of rotation **I** = indirect – counterclockwise  
**D** = direct – clockwise

The direction of rotation can only be changed in the factory.

Therefore, specify the desired direction of rotation as viewed from the pump shaft as per dimension sheet when ordering.



VBR series

## hp-Internal gear pumps to 40 bar (direction of rotation I = indirect – counterclockwise)

hp-Internal gear pump Series VBR Sizes:	Viscosity: 6 mm <sup>2</sup> sec <sup>-1</sup> at 20°C								Gear rotor size Ø	Shaft Ø	Threaded connection* pipe thread DIN ISO 228	Manometer connection* pipe thread DIN ISO 228	max. permitted pump speed (RPM) at I/D	Net weight (kg) at I/D
	n = 1400 RPM Discharge l/h				n = 2800 RPM Discharge l/h									
	at 9 bar	at 30 bar	at 40 bar	Item No. I	at 9 bar	at 30 bar	at 40 bar	Item No. I						
VBR P	45	30	20	011/0011	90	60	50	013/0011	25	12	3/8"	–	3500	2.9
VBR M	80	60	50	011/0012	160	130	120	013/0012	25	12	3/8"	–	3500	2.9
VBR G	120	100	80	011/0013	240	200	190	013/0013	25	12	3/8"	–	3500	2.9
VBR F	160	140	120	011/0014	320	270	260	013/0014	25	12	3/8"	–	3500	2.9
VBGR PP	150	100	80	011/0065	300	240	210	013/0040	38	12	1/2"	–	3500	3.7
VBGR PZ	200	160	140	011/0062	400	310	280	013/0041	38	12	1/2"	–	3500	3.7
VBGR P	300	240	200	011/0025	600	520	480	013/0023	38	12	1/2"	–	3500	3.7
VBGR MZ	–	–	–	–	850	750	700	013/0072	38	12	1/2"	–	3500	3.7
VBGR M	450	390	360	011/0026	900	850	730	013/0024	38	12	1/2"	–	3500	3.7
VBGR GZ	–	–	–	–	1100	1000	870	013/0042	38	12	1/2"	–	3500	3.7
VBGR G	600	540	480	011/0027	1200	1080	960	013/0043	38	12	1/2"	–	2800	3.7
VBHR P	1000	700	600	011/0037	–	–	–	–	56	18	3/4"	–	1700	8.4
VBHR M	1500	1200	1000	011/0038	–	–	–	–	56	18	3/4"	–	1700	8.4
VBHR G	2000	1700	1400	011/0039	–	–	–	–	56	18	3/4"	–	1700	8.4
VBHGR P	3000	2200	2000	011/0049	–	–	–	–	75	22	1" <sup>1)</sup>	1/4"	1700	18.6
VBHGR PZ	3700	3000	2700	011/0090	–	–	–	–	75	22	1" <sup>1)</sup>	1/4"	1700	18.6
VBHGR M	4500	3600	3200	011/0050	–	–	–	–	75	22	1" <sup>1)</sup>	1/4"	1700	18.6
VBHGR G	6000	4800	–	011/0051	–	–	–	–	75	22	1" <sup>1)</sup>	1/4"	1700	18.6
VBHGR F	6700	5800	–	011/0091	–	–	–	–	75	22	1" <sup>1)</sup>	1/4"	1700	18.6

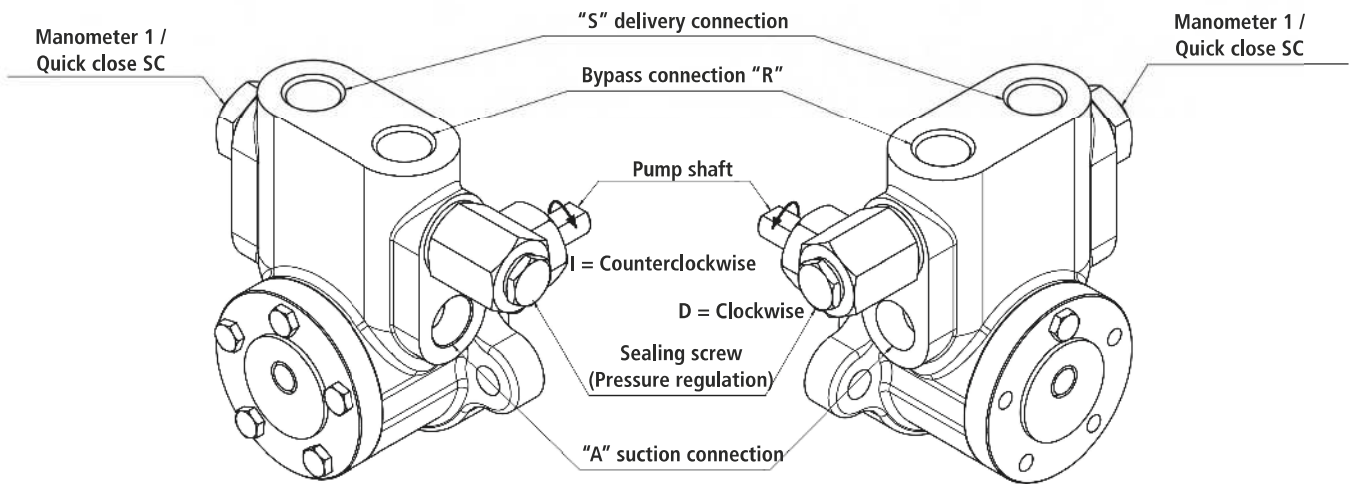
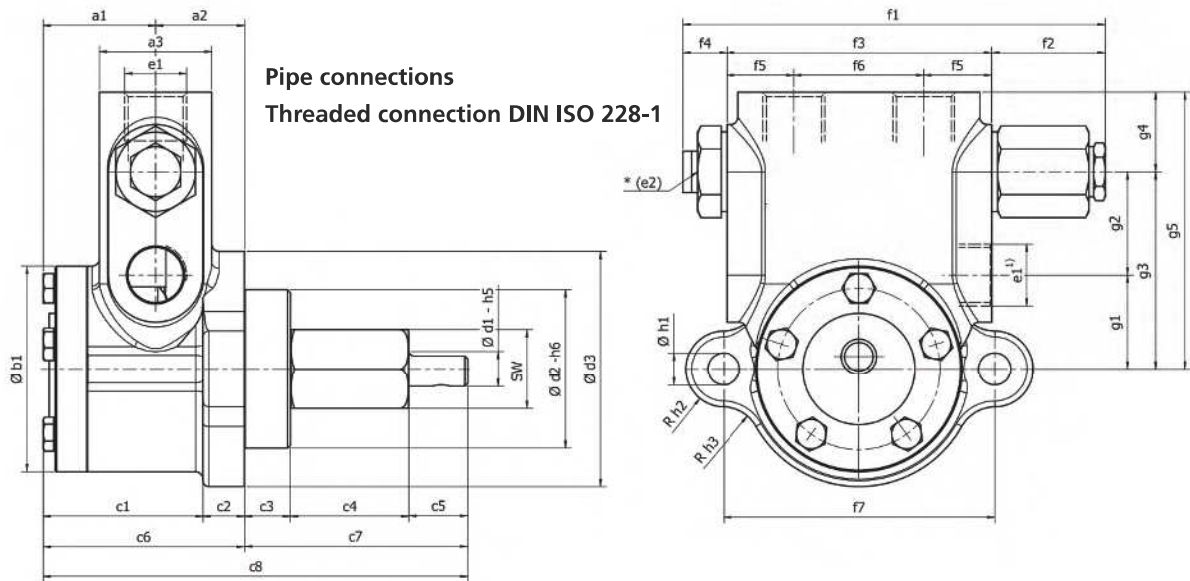
## hp-Internal gear pumps to 40 bar (direction of rotation D = direct – clockwise)

hp-Internal gear pump Series VBR Sizes:	Viscosity: 6 mm <sup>2</sup> sec <sup>-1</sup> at 20°C								Gear rotor size Ø	Shaft Ø	Threaded connection* pipe thread DIN ISO 228	Manometer connection* pipe thread DIN ISO 228	Heating power H1 in Watt 230 V, 50 Hz	Breakaway torque of the pump (Nm)
	n = 1400 RPM Discharge l/h				n = 2800 RPM Discharge l/h									
	at 9 bar	at 30 bar	at 40 bar	Item No. D	at 9 bar	at 30 bar	at 40 bar	Item No. D						
VBR P	45	30	20	012/0011	90	60	50	014/0011	25	12	3/8"	–	100	1.2
VBR M	80	60	50	012/0012	160	130	120	014/0012	25	12	3/8"	–	100	1.2
VBR G	120	100	80	012/0013	240	200	190	014/0013	25	12	3/8"	–	100	1.2
VBR F	160	140	120	012/0014	320	270	260	014/0014	25	12	3/8"	–	100	1.2
VBGR PP	150	100	80	012/0065	300	240	210	014/0040	38	12	1/2"	–	100	1.6
VBGR PZ	200	160	140	012/0062	400	310	280	014/0041	38	12	1/2"	–	100	1.6
VBGR P	300	240	200	012/0025	600	520	480	014/0023	38	12	1/2"	–	100	1.6
VBGR MZ	–	–	–	–	850	750	700	014/0072	38	12	1/2"	–	100	1.6
VBGR M	450	390	360	012/0026	900	850	730	014/0024	38	12	1/2"	–	100	1.6
VBGR GZ	–	–	–	–	1100	1000	870	014/0042	38	12	1/2"	–	100	1.6
VBGR G	600	540	480	012/0027	1200	1080	960	014/0043	38	12	1/2"	–	100	1.6
VBHR P	1000	700	600	012/0037	–	–	–	–	56	18	3/4"	1/4"	160	3.2
VBHR M	1500	1200	1000	012/0038	–	–	–	–	56	18	3/4"	1/4"	160	3.2
VBHR G	2000	1700	1400	012/0039	–	–	–	–	56	18	3/4"	1/4"	160	3.2
VBHGR P	3000	2200	2000	012/0049	–	–	–	–	75	22	1" <sup>1)</sup>	1/4"	280	4.6
VBHGR PZ	3700	3000	2700	012/0090	–	–	–	–	75	22	1" <sup>1)</sup>	1/4"	280	4.6
VBHGR M	4500	3600	3200	012/0050	–	–	–	–	75	22	1" <sup>1)</sup>	1/4"	280	4.6
VBHGR G	6000	4800	–	012/0051	–	–	–	–	75	22	1" <sup>1)</sup>	1/4"	280	4.6
VBHGR F	6700	5800	–	012/0091	–	–	–	–	75	22	1" <sup>1)</sup>	1/4"	280	4.6

\* To ensure the pump is working properly, the pipes must be scaled according to the principles of fluid dynamics by calculation of line according to the local requirements. The pump or device connection gives no indication of the relevant size of the pipe.

Scale Drawings for Series VBR

1.3



Gear rotor size Ø	Discharge l/h		a1	a2	a3	b1	c1	c2	c3	c4	c5	c6	c7	c8
	1400 RPM	2800 RPM												
25	45 - 160	90 - 320	35,5	20	33	51	41,5	14	16	40	20	55,5	76	131,5
38	150 - 600	300 - 1200	39,5	30	38	70	55,5	14	16	40	20	69,5	76	145,5
56	1000 - 2000	–	48,5	38	45	96	71,5	15	18	79	27	86,5	124	210,5
75	3000 - 6700	–	62,5	85	70	115	129,5	18	25	65	37	147,5	127	274,5

Gear rotor size Ø	Discharge l/h		d1	sw	e	d2	d3	e1	*e2	f1	f2	f3	f4	f5
	1400 RPM	2800 RPM												
25	45 - 160	90 - 320	12	27	31,2	54	80	G 3/8"	G 3/8"	144	38,5	90	15	26
38	150 - 600	300 - 1200	12	27	31,2	54	80	G 1/2"	G 3/8"	144	38,5	90	15	23
56	1000 - 2000	–	18	46	53	60	100	G 3/4"	G 3/8"	167,5	35	118	15	25,5
75	3000 - 6700	–	22	55	63,5	80	120	G 1" <sup>1)</sup>	G 3/8"	200	28	150	21,5	35

Gear rotor size Ø	Discharge l/h		f6	f7	f8	f9	g1	g2	g3	g4	g5	h1	h2	h3
	1400 RPM	2800 RPM												
25	45 - 160	90 - 320	38	92	140	18	30	33	63	27	90	11	13	13
38	150 - 600	300 - 1200	44	92	140	18	32	35	67	27	94	11	13	13
56	1000 - 2000	–	67	120	171	26,5	38	42	80	35	115	13	13	25
75	3000 - 6700	–	80	150	218	32	18	62	80	40	120	14,5	15	–

VBGHR model with G 1/4" manometer connection on the front

<sup>1)</sup> For pinion size 75 = 3000 to 6700 l/h the side suction connection is G 1 1/2".

Pumps and Valves  
Motor pump groups  
Units for single-pipe installation  
Feed pumps and Pressure aggregates  
Oil burner pressure aggregates  
Filters  
Pump controls  
Accessories and Spare parts  
Nozzles  
Special units and Application  
General