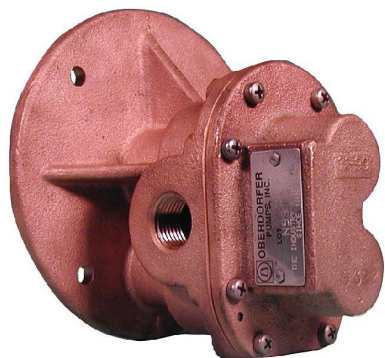




OBERDORFER®

An Ingersoll Rand Business

N994E Series Bronze Close Coupled Rotary Gear Pumps



Features

- 1/2" BSPT Ports
- Temp. Range: 0°C - 60°C
- Bronze Construction with Stainless Steel Shafts
- Helical gears for quiet operation
- Easy Field Assembly to Motors
- Self-Lubricating Carbon Bearings
- O-ring seal for maximum leak protection
- Lip or Mechanical Seal
- For Danfoss hydraulic motor driven pump units see OBNE994-40

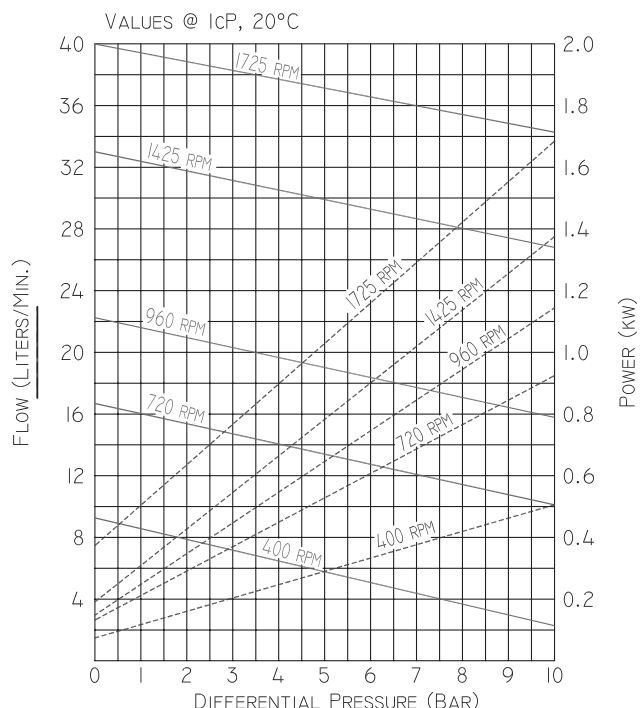
General Description

Pump housings and gears are made of top quality bronze, shafts are stainless steel 303. Bearings are made of high performance carbon-graphite material selected for wear resistance and long service life. Gear pumps are positive displacement pumps. Each shaft revolution displaces a definite amount of liquid relatively unaffected by the back pressure in the discharge line. Shaft speed and flow are directly proportional.

Drive Arrangement

Close coupled pumps are mounted directly to the electric motor by means of a suitable adapter bracket. The pump drive shaft is connected to the motor shaft by a flexible coupling.

Performance



* For pressures over 7 bar, the above selections are suitable for pumping fluids with lubricity (eq. oils, polymers). Service life will decrease for fluids without lubricity (eq. water, solvents).

Liquids and Temperature

These pumps are suitable for all liquids that are compatible with bronze. Most common liquids are water, oil, and mild chemicals in the pH-range of 4 to 11. Viscous liquids require reduced shaft speeds of 1150 RPM or lower. Consult factory.

Liquids containing solids, abrasives, powders or paint pigments are definitely not recommended for gear pumps. If abrasives are unavoidable, use a very low shaft speed. See pricebook for the recommended liquid temperature range of lip and mechanical seals. Freezing of water-filled pumps can cause damage and must be avoided. Oils at low temperatures are very viscous requiring a lower speed or extra power.

Suction Lift

As a general rule, the suction lift should be kept at an absolute minimum by placing the pump as close to the liquid source as possible. A gear pump in new condition can lift 6 meters of water in the suction line. A foot valve (preferably with built-in strainer) is recommended at the beginning of the suction line. For a first start-up, the pump should be primed to avoid dry running. Minimum size of the suction pipe is the size of the pump inlet port. For longer suction lines (over 1 meter), or for viscous liquids, the pipe size should be at least one size or two sizes larger than the pump inlet port.



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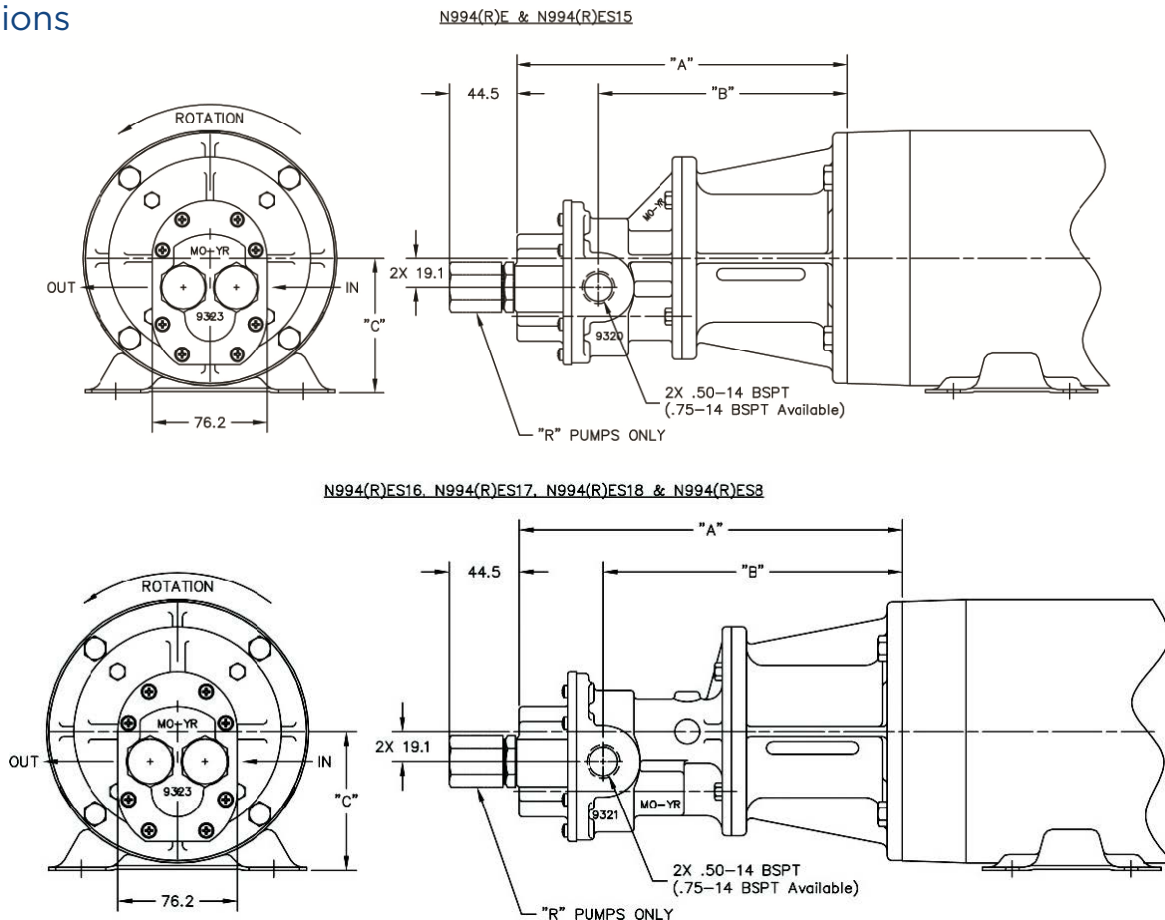
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Rotation and Relief Valve

The relief valve is not a flow control device; it protects against excess discharge pressure when spring tension is exceeded. If the discharge line is fully closed, overheating can occur within 5-10 minutes. Factory motor setup: clockwise shaft rotation. Reversing rotation changes “in” and “out” ports and requires relocating the relief valve, which is always on the discharge side.

Factory pressure setting: 3.5 bar. To increase pressure, turn the adjusting screw clockwise. Single-phase motors: reversal instructions are inside the junction box cover or on the motor nameplate. Three-phase motors can be reversed by swapping any two of the three leads.

Dimensions



Motor/Adapter Kit Dimensions (mm)				
Model	Motor Frame	„A“	„B“	„C“
OBN994(R)EH & OBN994(R)ES15H	56C	219.2	165.1	88.9
OBN994(R)EJ & OBN994(R)ES15J	143TC/145TC	219.2	165.1	88.9
OBN994(R)EK & OBN994(R)ES15K	182TC/184TC	241.3	185.4	114.3
OBN994(R)EL & OBN994(R)ES15L	213TC/215TC	241.3	185.4	134.6
OBN994(R)ES16, S17, S8 OR S18H	56C	246.4	190.5	88.9
OBN994(R)ES16, S17, S8 OR S18J	143TC/145TC	246.4	190.5	88.9
OBN994(R)ES16, S17, S8 OR S18K	182TC/184TC	266.2	211.8	114.3
OBN994(R)ES16, S17, S8 OR S18L	213TC/215TC	266.2	211.8	134.6

Motor/Adapter Kit Dimensions (mm)				
Model	Motor Frame	„A“	„B“	„C“
OBN994(R)EG & OBN994(R)ES15G	IEC 71*	206.5	152.4	71.0
OBN994(R)ET & OBN994(R)ES15T	IEC 80*	206.5	152.4	80.0
OBN994(R)EU & OBN994(R)ES15U	IEC 90S/90L*	219.2	165.1	90.0
OBN994(R)EV & OBN994(R)ES15V	IEC 100L/112M*	219.2	165.1	100.0/112.0
OBN994(R)ES16, S17, S8 OR S18G	IEC 71*	206.5	152.4	71.0
OBN994(R)ES16, S17, S8 OR S18T	IEC 80*	206.5	152.4	80.0
OBN994(R)ES16, S17, S8 OR S18U	IEC 90S/90L*	219.2	165.1	90.0
OBN994(R)ES16, S17, S8 OR S18V	IEC 100L/112M*	219.2	165.1	100.0/112.0

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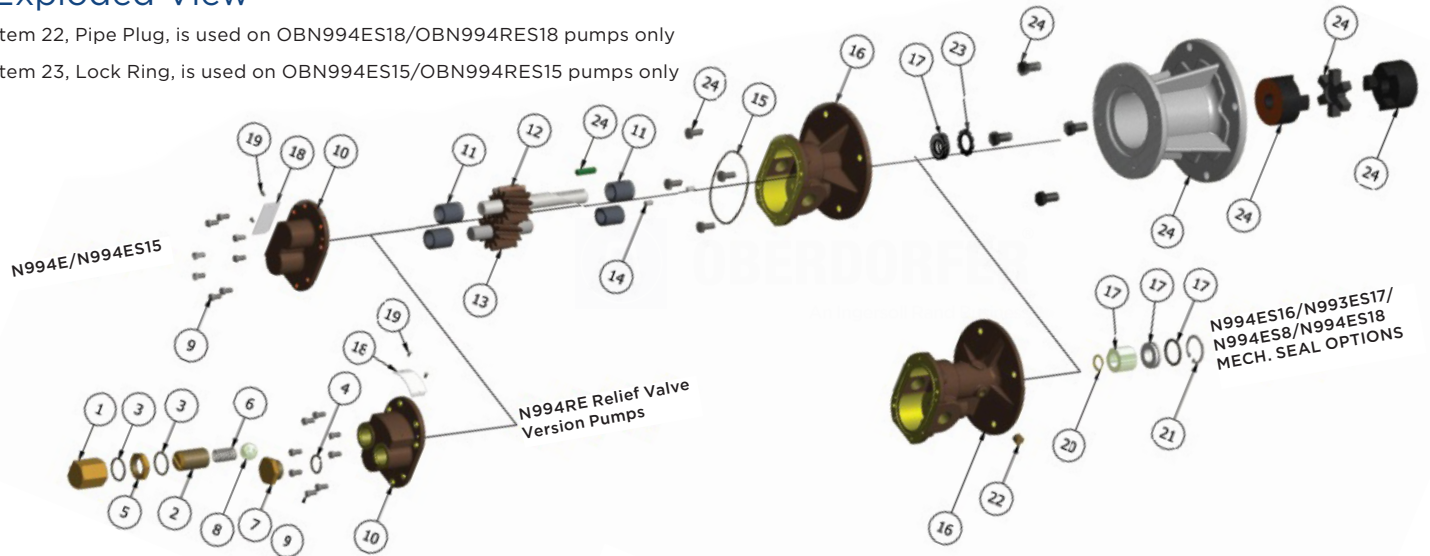
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Exploded View

Item 22, Pipe Plug, is used on OBN994ES18/OBN994RES18 pumps only

Item 23, Lock Ring, is used on OBN994ES15/OBN994RES15 pumps only



	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
	Bypass Nut	Adj. Screw	O-Ring	O-Ring	Locknut	Spring	Plugnut	Ball	Screw	Cover	Bearing	Drive Gear Assy	Idle Gear Assy	Dowel Pin	O-Ring
Model	Qty. 1	Qty. 1	Qty. 2	Qty. 1	Qty. 1	Qty. 1	Qty. 1	Qty. 1	Qty. 8	Qty. 1	Qty. 4	Qty. 1	Qty. 1	Qty. 2	Qty. 1
OBN994E	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	OB5385	OB9322NN5N	OB5091	OB33011	OB33008	OB8885	OB9797-041
OBN994RE	OB5204	OB5200	OB9797-021	OB9797-018	OB5209D	OB5207	OB5205	OB5206	OB5385	OB9323NN5B	OB5091	OB33011	OB33008	OB8885	OB9797-041
OBN994ES15	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	OB5385	OB9322NN5N	OB5091	OB33011	OB33008	OB8885	OB9797-041
OBN994RES15	OB5204	OB5200	OB9797-021	OB9797-018	OB5209D	OB5207	OB5205	OB5206	OB5385	OB9323NN5B	OB5091	OB33011	OB33008	OB8885	OB9797-041
OBN994ES16	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	OB5385	OB9322NN5N	OB5091	OB33014	OB33008	OB8885	OB9797-041
OBN994RES16	OB5204	OB5200	OB9797-021	OB9797-018	OB5209D	OB5207	OB5205	OB5206	OB5385	OB9323NN5B	OB5091	OB33014	OB33008	OB8885	OB9797-041
OBN994ES17	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	OB5385	OB9322NN5N	OB5091	OB33014	OB33008	OB8885	OB9797-041
OBN994RES17	OB5204	OB5200	OB9797-021	OB9797-018	OB5209D	OB5207	OB5205	OB5206	OB5385	OB9323NN5B	OB5091	OB33014	OB33008	OB8885	OB9797-041
OBN994ES8	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	OB5385	OB9322NN5N	OB5091	OB33013	OB33008	OB8885	OB9999-041
OBN994RES8	OB5204	OB5200	OB9797-021	OB9797-018	OB5209D	OB5207	OB5205	OB5206	OB5385	OB9323NN5B	OB5091	OB33013	OB33008	OB8885	OB9999-041
OBN994ES18	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	OB5385	OB9322NN5N	OB5091	OB33013	OB33008	OB8885	OB9355-041
OBN994RES18	OB5204	OB5200	OB9797-021	OB9797-018	OB5209D	OB5207	OB5205	OB5206	OB5385	OB9323NN5B	OB5091	OB33013	OB33008	OB8885	OB9355-041

	16	17	18	19	20	21	22	23	24	
	Body	Lipseal	Mechanical Seal	Tag	Tag Screw	Retaining Ring	Retaining Ring	Pipe Plug	Lock Ring	Adapter Kits
Model	Qty. 1	Qty. 1	Qty. 1	Qty. 1	Qty. 2	Qty. 1	Qty. 1	Qty. 1	Qty. 1	Repair Kits
OBN994E	OB9320ND2N	OB5463	N/A	OB9344	OB9345	N/A	N/A	N/A	N/A	OB11333
OBN994RE	OB9320ND2N	OB5463	N/A	OB9344	OB9345	N/A	N/A	N/A	N/A	OB11333
OBN994ES15	OB9320ND2N	OB9997	N/A	OB9344	OB9345	N/A	N/A	N/A	OB3033	OB12100
OBN994RES15	OB9320ND2N	OB9997	N/A	OB9344	OB9345	N/A	N/A	N/A	OB3033	OB12100
OBN994ES16	OB9321PD4N	N/A	OB32202	OB9344	OB9345	OB5382	OB5374	N/A	N/A	OB12400
OBN994RES16	OB9321PD4N	N/A	OB32202	OB9344	OB9345	OB5382	OB5374	N/A	N/A	OB12400
OBN994ES17	OB9321PD4N	N/A	OB32235	OB9344	OB9345	OB5382	OB5374	N/A	N/A	OB12401
OBN994RES17	OB9321PD4N	N/A	OB32235	OB9344	OB9345	OB5382	OB5374	N/A	N/A	OB12401
OBN994ES8	OB9321PD4N	N/A	OB33074	OB9344	OB9345	OB5382	OB5374	N/A	N/A	TBD
OBN994RES8	OB9321PD4N	N/A	OB33074	OB9344	OB9345	OB5382	OB5374	N/A	N/A	TBD
OBN994ES18	OB9321PD6N	N/A	OB32923	OB9344	OB9345	OB5382	OB5374	OB6052	N/A	TBD
OBN994RES18	OB9321PD6N	N/A	OB32923	OB9344	OB9345	OB5382	OB5374	OB6052	N/A	TBD

Adapter Kits

Adapter Kits		
Adapter Kit	Part Number	Description
H	OB11299	56C Frame
J	OB11300	143TC/145TC
K	OB11301	182TC/184TC
L	OB11302	213TC/215TC
G	OB11380	IEC 71*
T	OB11386	IEC 80*
U	OB11875	IEC 90S/90L*
V	OB11876	IEC 100L/112M*

*To IEC 72 Standard B3/B14

Repair Kits contain items 11, 12, 13, 15, 17, 20, 21 & 23.



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