



Manzel[®] MVB Pump Disassembly & Assembly Procedures

Disassembly and assembly of the MVB Pump should be done in a clean area. Refer to the attached drawing.

DISASSEMBLY PROCEDURES

1. Place pump upside down in vise with pump body in soft-jaw vise for protection.
2. Depress item (6) piston guide and remove (9H) self locking ring and (6) piston guide.
3. Withdraw piston assembly and item (4) piston return spring.
Note: unless item (5) cylinder and piston set are to be replaced, there is no need to remove items (9F & 1) retaining ring and spring retainer from piston.
4. With the bottom of the piston visible remove items (9F) retainer ring, (1) retainer spring, and (4) piston return spring.
5. Remove pump from vise and turn over. Replace pump in soft-jaw vise with adjustment nut facing upward.
6. Loosen item (9J) set screw to relieve locking force on cylinder & piston assembly. Removal is not necessary.
7. Remove item (9D) pipe plug. Unthread and remove item (5) Cylinder.
Note: Care should be taken when removing cylinder assembly. Do not cut O-rings.
8. Replace O-ring and backup rings as necessary.
9. Remove MVB Pump from vise.
10. Place item (5) cylinder assembly in vise and remove indicator port adaptor.
11. Remove cylinder assembly from vise and remove items (9A) check ball, (3) outlet spring, and (8G) indicator port O-ring.
12. Inspect components and replace as needed.

ASSEMBLY PROCEDURES

1. Place item (5) cylinder assembly in soft jaw vice and replace items (9A) outlet check ball and (3) outlet check spring. Tread in indicator port adaptor and torque to 12ft. Lbs.
2. Remove cylinder assembly from vise.
3. Place pump housing in soft jaw vice with flange end facing down.
4. Tread in item (5) cylinder exercising care not to cut o-rings.
5. Apply a small amount of pipe sealant to item (9D) pipe plug and while holding indicator port adapter with a wrench, tighten pipe plug.
6. Remove pump housing from vise and turn over so that flange end faces up.
7. Replace item (4) piston return spring.
8. Lightly oil piston and insert into cylinder bore.
9. Insert item (6) piston guide and depress slightly to allow item (9H) self-locking ring to be installed.

ORDERING INFORMATION

ITEM	Qty	Description	Part No.	Old Part No.
*1	1	Retainer-Spring, 0.261/0.266	556495	418-700-348
**1	1	Retainer-Spring, 0.386/0.391	556496	418-700-350
2	1	MVB Pump Gasket	556726	439-073-033
3	1	Spring-Outlet Check Valve	556960	458-005-871
4	1	Piston Return Spring	557012	458-200-040
*5	1	Cylinder & Piston 1/4 dia	563115	477-020-564
**6	1	Cylinder & Piston 3/8 dia	563119	477-040-129
†7	1	MVB Pump Seal Kit	558015	560-003-004
†8	1	MVB Pump Hardware Kit	558016	560-003-005

*Included with 1/4 in Piston Kit

**Included with 3/8 in Piston Kit

†See table below for output information

REPLACEMENT PART KITS ORDERING INFORMATION

Description	Part No.	Old Part No.
1/4 in Piston Kit	563918	560-001-740
3/8 in Piston Kit	563919	560-001-750
MVB Pump Seal Kit	558015	560-003-004
MVB Pump Hardware Kit	558016	560-003-005

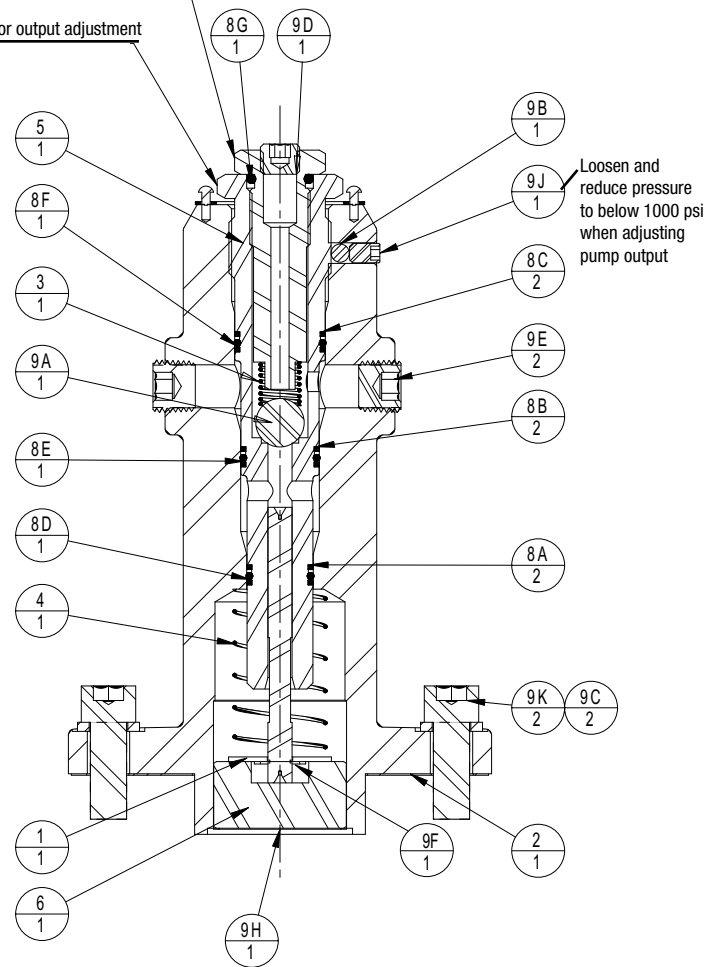
MVB HARDWARE KIT ORDERING INFORMATION

ITEM	Qty	Description	Part No.	Old Part No.
9A	1	1/2 Chrome Steel Ball	—	401-030-130
9B	1	3/16 Polyurethane Ball	556338	401-700-010
9C	2	3/8 Washer, Lock	558677	421-010-030
9D	1	Plug, 1/8 Pipe	557349	503-485-000
9E	2	Plug, Pipe, 1/4-18 NPSF	557391	508-975-000
9F	1	Retaining Ring, RE-25	—	418-150-060
9G	1	Retaining Ring, SHF-37 0.375 dia	—	418-700-513
9H	1	Self-Locking Ring, 1-1/2 Hole	558666	418-141-500
9J	1	Set Screw 1/4-28 x 5/16 Cup pt	555537	417-460-030
9K	2	SHCS, 3/8-16 x 1	558674	419-170-050

Indicator port adapter

*Hold with 13/16 wrench when removing or installing pipe plug

1-1/8 hex for output adjustment



MVB SEAL KIT ORDERING INFORMATION

ITEM	Qty	Description	Part No.	Old Part No.
8A	2	Backup Ring -015	556588	423-700-053
8B	2	Backup Ring -017	—	423-700-040
8C	2	Backup Ring -019	—	423-700-039
8D	1	O-Ring -015 Viton A 70	556558	422-040-150
8E	1	O-Ring -017 Viton A 70	555683	422-040-170
8F	1	O-Ring -019 Viton A 70	—	422-040-190
8G	1	O-Ring -112 Viton A 70	556555	422-040-120

PUMP OUTPUT ADJUSTMENT CHART - CU.IN. PER STROKE

Piston	Full Stroke	Adjustment Screw Turns - Counter Clockwise From Full Stroke														
		1/4	1/2	3/4	1	1-1/4	1-1/2	1-3/4	2	2-1/4	2-1/2	2-3/4	3	3-1/4	3-1/2	3-3/4 Min
.250	.012	.0114	.0107	.0100	.0095	.0089	.0082	.0076	.0070	.0063	.0057	.0051	.0044	.0038	.0031	.0025
.3750	.0300	.0284	.0268	.0252	.0236	.0220	.0204	.0188	.0172	.0156	.0140	.0124	.0108	.0092	.0076	.0060

* Full stroke is when adjustment screw is tight against pump body

All written and visual data contained in this document are based on the latest product information available at the time of publication. Graco reserves the right to make changes at any time without notice.

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