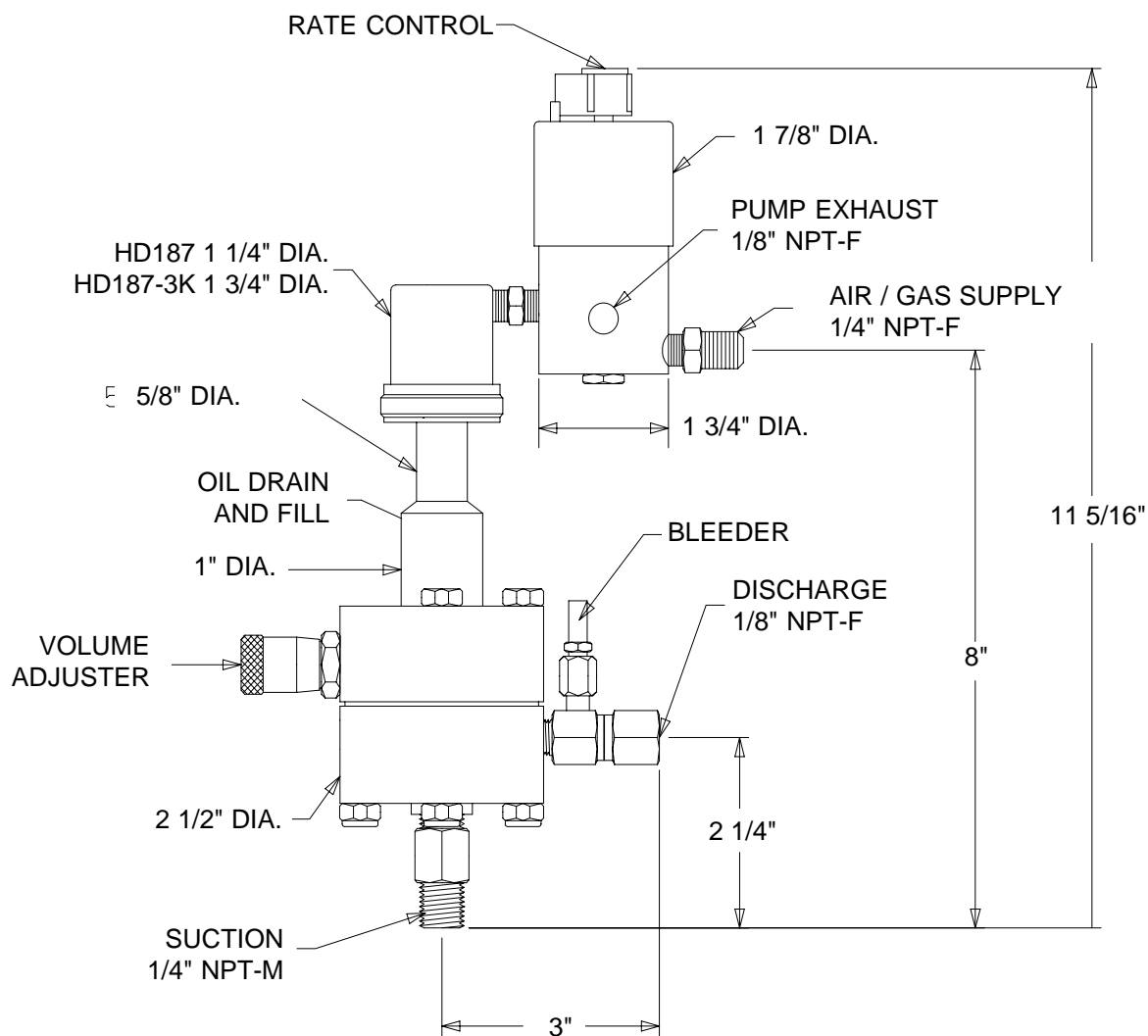


MORGAN PRODUCTS

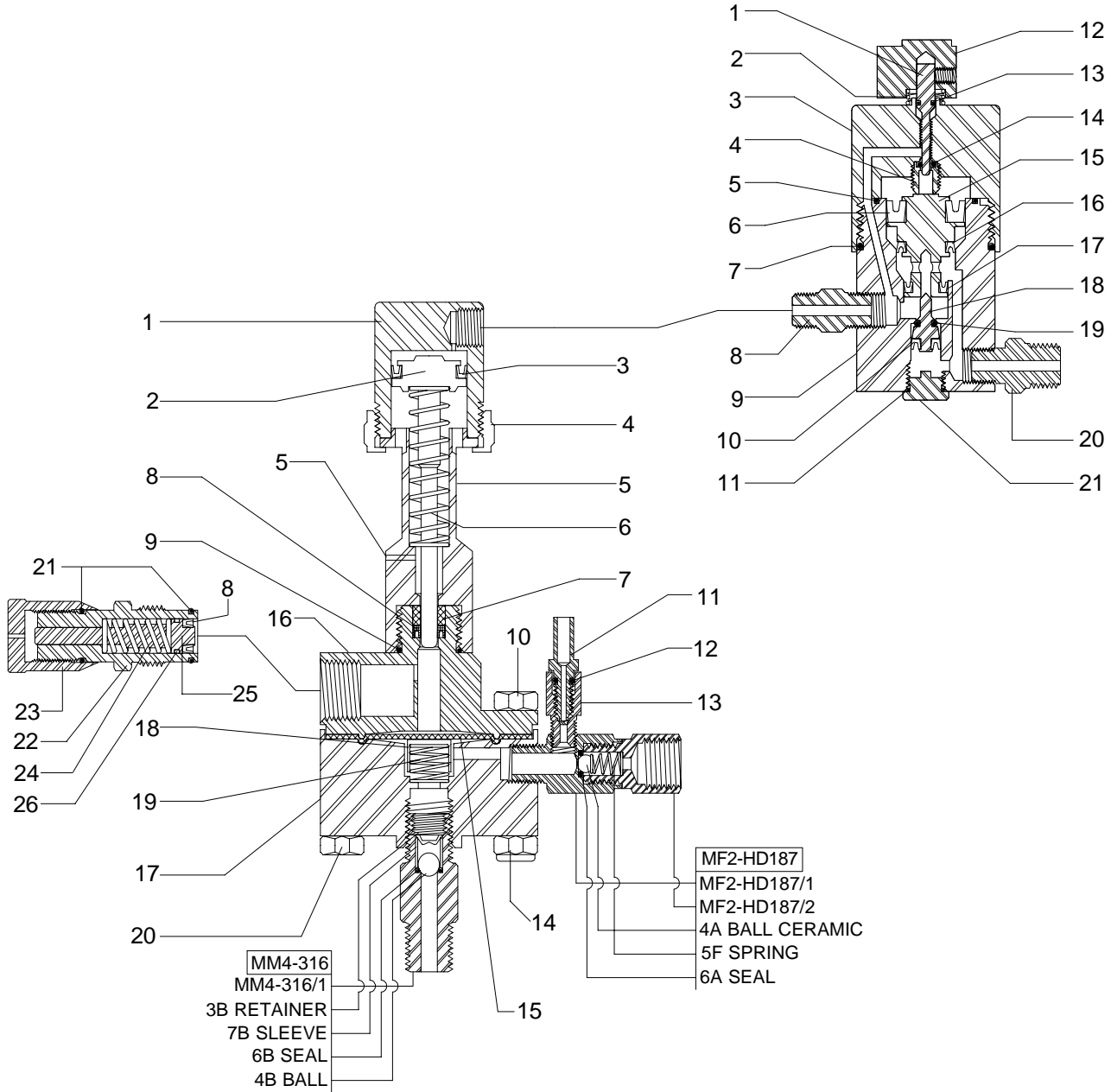
PNEUMATIC CHEMICAL PUMPS FOR THE GAS AND OIL INDUSTRIES
MODEL HD187M-TR2 / HD187-3KM-TR2
 AIR ACTUATED HYDRAULIC DIAPHRAGM PUMP



MODEL (WITH TIMER)	PUMP DISPLACEMENT	RATIO	STROKE LENGTH in. - cm.	CONNECTIONS ALL NPT INPUT / OUTPUT	MAXIMUM DISCHARGE PSI - BAR	OUTPUT PER HOUR GAL. / LTS.
HD187M-TR2	.02-.2 cc	10:1	1/2 - 1.27	1/4 - M / 1/8 - F	1000 - 68.9	.005 - .12 / .019 - .46
HD187-3KM-TR2	.02-.2cc	30:1	1/2 - 1.27	1/4 - M / 1/8 - F	3000 - 206	.005 - .12 / .019 - .46

MODEL HD187M

TR2



To order check valve parts, use check valve designation & dash number.
 EXAMPLE: Ball for MM4-316 Order MM4-316/4

Keep all rubber goods lubricated with Morgan Products grease or equivalent.

**MODEL HD187M
PARTS LIST**

NO	NAME	PART NO.	MODEL
1	Air Chamber	HD187M-4 HD187-3KM-4	HD187M HD187-3KM
2	Piston Plunger	HD187-15 *	HD187M
n/s	Piston	100-8	HD187-3KM
n/s	Plunger	HD187-3K-15	HD187-3KM
n/s	Piston Locknut	100-7	HD187-3KM
n/s	O-Ring Seal	100-11 *	HD187-3KM
3	Piston Seal	HD187-9 * 100-9 *	HD187M HD187-3KM
4	Air Chamber Ring	50-5 100-5	HD187M HD187-3KM
5	Oiler Housing	HD187-14 HD187-3K-14	HD187M HD187-3KM
6	Return Spring	50-13 * 100-13 *	HD187M HD187-3KM
7	Back Up Ring	HD187-19 +*	ALL
8	Pressure Seal	HD187-20 +*(2)	ALL
9	O-Ring Seal	50-21 *	ALL
10	Chamber Bolt	HD187-30 (4)	ALL
11	Bleeder	HD187-22	ALL
12	O-Ring Seal	TR2-16 *	ALL
13	Bleeder Adapter	HD187-38	ALL
14	Locknut	HD187-30 (4)	ALL
15	Diaphragm	HD187-32 *	ALL
16	Hydraulic Chamber	HD187-29M	ALL
17	Pressure Chamber	HD187-23	ALL
18	Spring Cup	HD187-35	ALL
19	Diaphragm Spring	HD187-36 *	ALL
20	Short Chamber Bolt	HD187M-30 (2)	ALL
21	O-Ring Seal	HD187M-7 *(2)	ALL
22	Oil Chamber	HD187M-1	ALL
23	Adjuster Knob	HD187M-2	ALL
24	Spring	SR1S-15 *	ALL
25	Plunger	HD187M-3	ALL
26	O-Ring	100-11 *	ALL
	1oz. Grease	*	ALL
	1oz. Oil	HD187-24 *	ALL

* = Included in Repair Kit

+ = Included in Seal Set

REPAIR KITS AND SEAL SET

PART NO.	DESCRIPTION	MODEL
HD187M-50	REPAIR KIT	HD187
HD187-3KM-50	REPAIR KIT	HD187-3KM
HD187-48	SEAL SET	ALL
TR2-50	REPAIR KIT	TR2

**MODEL TR2
PARTS LIST**

NO	NAME	PART NO.	MATERIAL
1	Metering Valve	TR2-3	303 SS
2	Knob Spring	TR2-2	302 SS
3	Upper Body	TR2-5	303 SS
4	Metering Seat	TR2-6	18-8 SS
5	O-Ring	TR2-13 *	BUNA-N
6	Upper Seal	TR2-10 *	VITON
7	O-Ring	TR2-14 *	BUNA-N
8	1/8" NPT Nipple	TR2-22	303 SS
9	Lower Body	TR2-8	303 SS
10	Poppet Seal	TR2-17 *	VITON
11	Plug Seal	TR2-18 *	BUNA-N
12	Knob	TR2-1	PLASTIC
13	O-Ring	TR2-4 *	BUNA-N
14	Teflon Seal	TR2-7 *	TEFLON
15	Piston	TR2-9	NYLON
16	Middle Seal	TR2-11 *	VITON
17	Lower Seal	TR2-12 *	VITON
18	Poppet	TR2-15	PVC
19	Poppet O-Ring	TR2-16 *	VITON
20	1/8 x 1/4 NPT Nipple	TR2-21	303 SS
21	Plug	TR2-19	303 SS
	1oz. Grease	*	

* = Included in Repair Kit

**MATERIAL SPECIFICATIONS
HD187**

NAME	STANDARD	OPTION
Stroke Adjuster	18-8 SS & ABS	
Locknut	18-8 SS	
O-Ring Seals	Buna - N	Viton
Piston Seals	Buna - N	Viton
Plunger	17-4 SS	
Return Spring	Teflon Coated Inconel	
Back Up Ring	PVC	
Pressure Seal	Graphite Filled Teflon	
Diaphragm	Teflon Faced Buna-N	
Chamber Bolt	18-8 SS	
Bleeder	316 SS	
Pressure Chamber	316 SS	
Check Valve Bodies	316 SS	
Check Valve Seals	Teflon	
Check Valve Balls	Ceramic	
Check Valve Springs	Inconel	
All Other Parts	303 or 304 SS	

**AIR / GAS USAGE
SCF/DAY AT 1 STROKE PER MINUTE**

MODEL	25 psi	50 psi	75 psi	100 psi	125psi	150 psi
HD187M	1.0	2.0	2.9	3.7	4.5	5.3
HD187-3KM	3.9	6.4	8.9	11.3	13.8	16.2

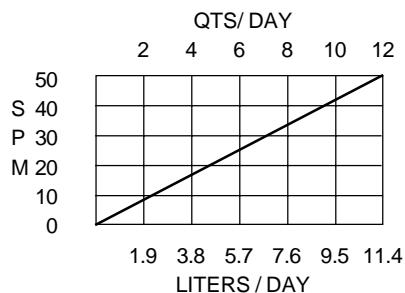
Table constant multiplied by stroke rate = SCFD
 Example: HD187 (operated at 50 psi) Multiply 2.0 by 20 SPM = 40 SCFD

INSTALLATION INSTRUCTIONS

1. Discard all red plastic closures.
2. Connect suction check valve, to a gravity fed chemical source.
3. Connect discharge check valve, to process line.
4. Connect a regulated air or gas supply, to the timing relay.
5. Fill pump with oil provided, oil will flow out of the bleed hole to regulate oil level.
 ** This must be done BEFORE start up. **
6. Open bleeder valve until chemical flows from bleeder.
7. Set regulator at 10 to 15 psi ABOVE the pressure required.
 (See Discharge pressure graph.)
8. Set cycle rate for approximate strokes per minute.
 (See volume graph)
9. Further adjust volume per stroke using the metering knob on the side of the pump.

CAUTION: Use only light hydraulic oil.

VOLUME



DISCHARGE PRESSURE

