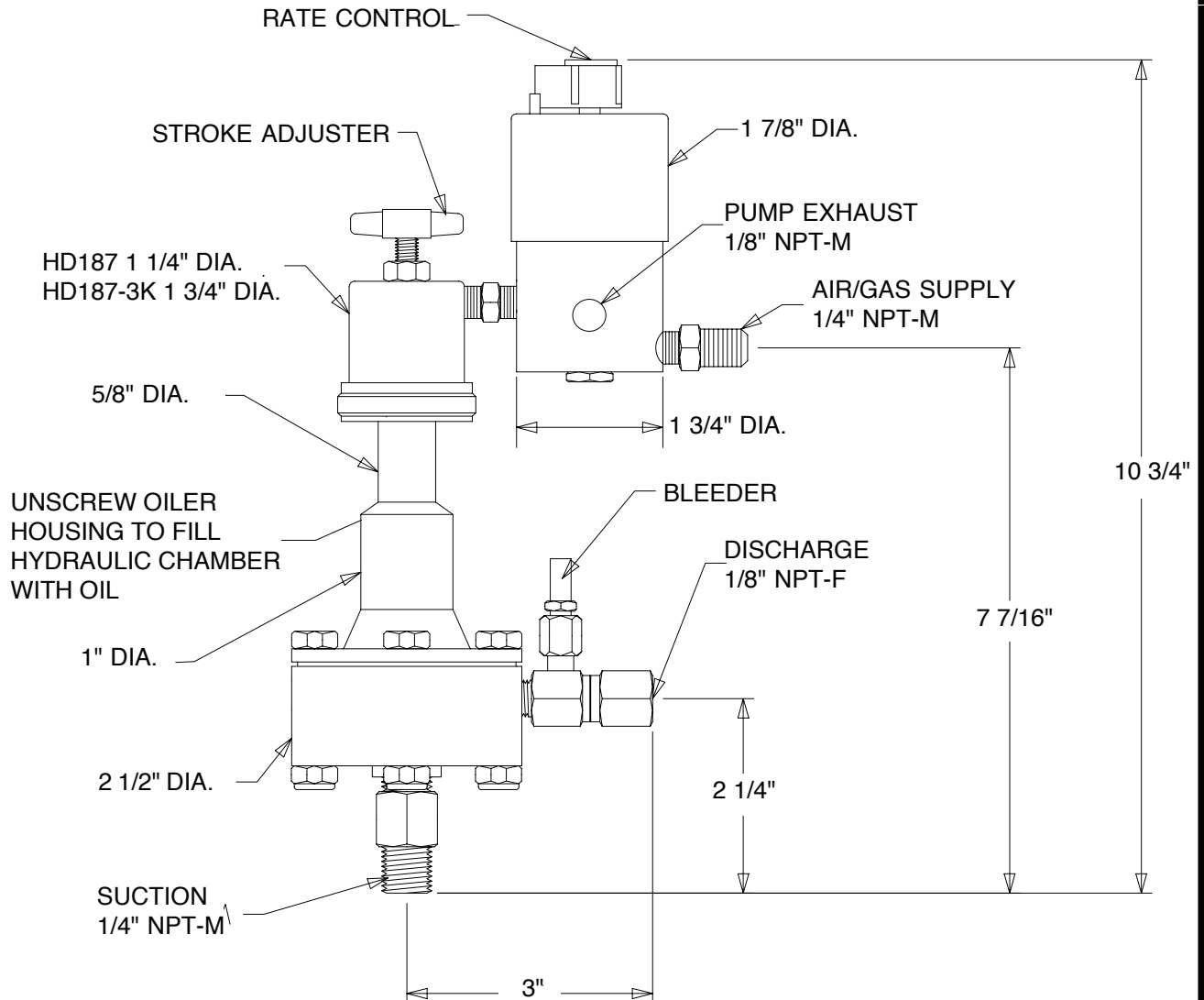


# MORGAN PRODUCTS

PNEUMATIC CHEMICAL PUMPS FOR THE GAS AND OIL INDUSTRIES

## MODEL HD187 /HD187-3K

AIR ACTUATED HYDRAULIC DIAPHRAGM PUMP



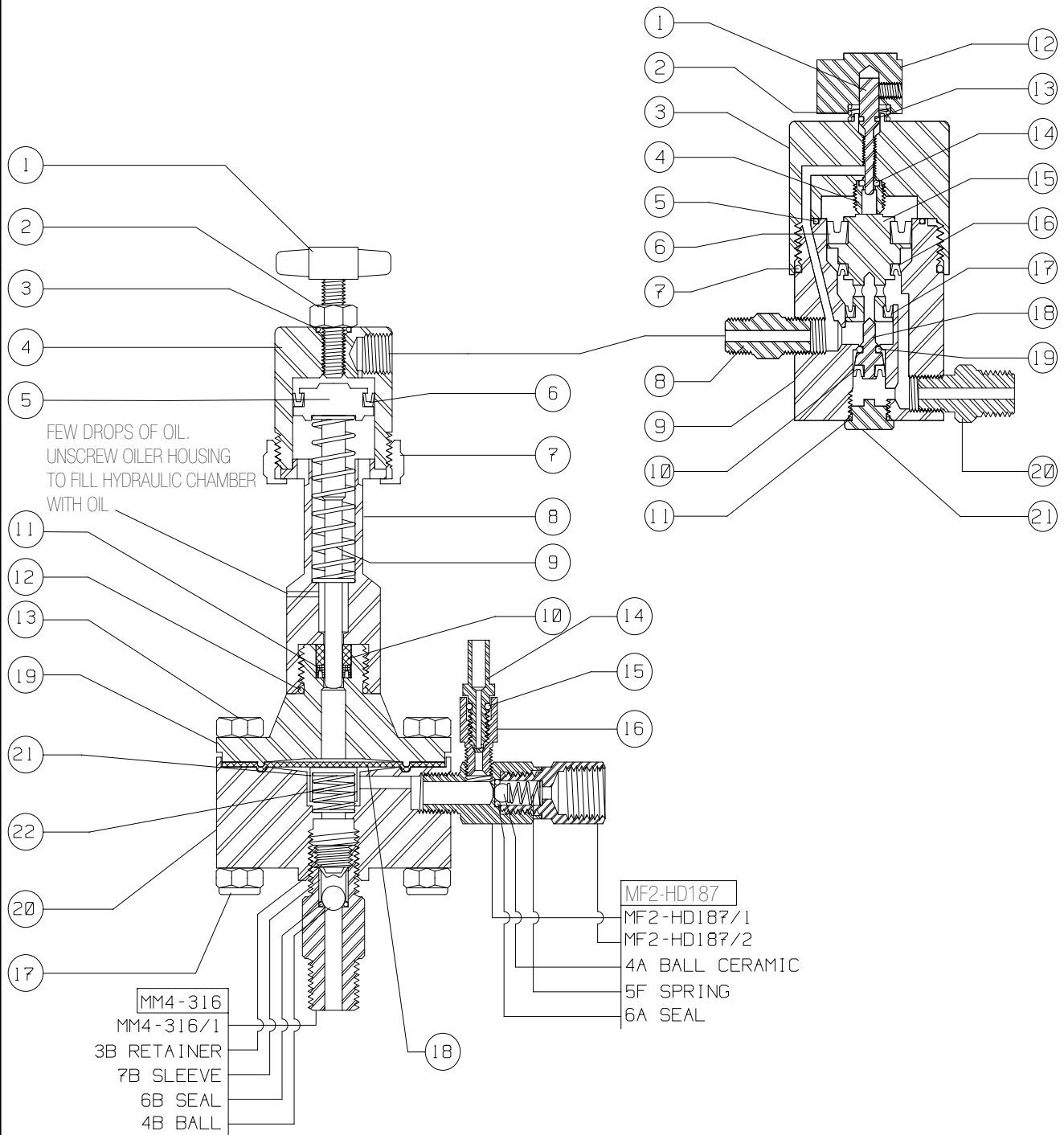
MODEL (WITH TIMER)	DISPLACEMENT	PUMP RATIO	STROKE LENGTH in. - cm.	CONNECTIONS ALL NPT INPUT / OUTPUT	MAXIMUM DISCHARGE PSI BAR	OUTPUT PER HOUR GAL. / LTS.
HD187-TR2	.2 cc	10:1	1/2 - 1.27	1/4 - M / 1/8 - F	1000 - 68.9	.01 - .12 / .05 - .46
HD187-3K-TR2	.2 cc	30:1	1/2 - 1.27	1/4 - M / 1/8 - F	3000 - 206	.01 - .12 / .05 - .46

**MORGAN PRODUCTS INC.** 28103 Ave. Stanford / Valencia, CA 91355

Phone (661) 257-3022 - (800) 421-8910 - FAX (661) 257-3385

# MODEL HD187

# 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 HD187  
PARTS LIST**

NO	NAME	PART NO.	MODEL
1	Stroke Adjuster	HD187-1	HD187
		HD312-1	HD187-3K
2	Locknut	50-2	HD187
		100-2	HD187-3K
3	O-Ring Seal	100-11 *	HD187
		100-3	HD187-3K
4	Air Chamber	HD187-4	HD187
		HD187-3K-4	HD187-3K
5	Piston Plunger	HD187-15 *	HD187
n/s	Piston	100-8	HD187-3K
n/s	Plunger	HD187-3K-15	HD187-3K
n/s	Piston Locknut	100-7	HD187-3K
n/s	O-Ring Seal	100-11 *	HD187-3K
6	Piston Seal	HD187-9 *	HD187
		100-9 *	HD187-3K
7	Air Chamber Ring	50-5	HD187
		100-5	HD187-3K
8	Oiler Housing	HD187-14	HD187-3K
		HD187-3K-14	HD187-3K
9	Return Spring	50-13 *	HD187
		100-13 *	HD187-3K
10	Back Up Ring	HD187-19 *	ALL
11	Pressure Seal	HD187-20 *	ALL
12	O-Ring Seal	50-21 *	ALL
13	Chamber Bolt	HD187-30 (6)	ALL
14	Bleeder	HD187-22	ALL
15	O-Ring Seal	TR2-16 *	ALL
16	Bleeder Adapter	HD187-38	ALL
17	Locknut	D40-9 (6)	ALL
18	Diaphragm	HD187-32 *	ALL
19	Hydraulic Chamber	HD187-29	ALL
20	Pressure Chamber	HD187-23	ALL
21	Spring Cup	HD187-35	ALL
22	Diaphragm Spring	HD187-36 *	ALL
	1oz. Grease	*	ALL
	1oz. Oil	HD187-24 *	ALL

\* = Included in Repair Kit

**REPAIR KITS AND SEAL SET**

PART NO.	DESCRIPTION	MODEL
HD187-50	REPAIR KIT	HD187
HD187-3K-50	REPAIR KIT	HD187-3K
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 /HD187-3K**

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
HD187	1.0	2.0	2.9	3.7	4.5	5.3
HD187-3K	3.9	6.4	8.9	11.3	13.8	16.2

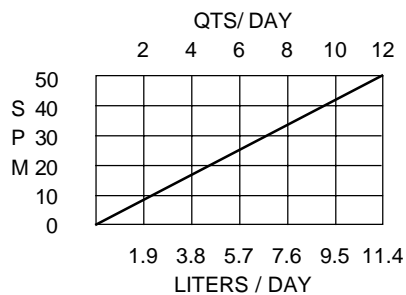
Table constant multiplied by stroke rate = SCFD  
 Example: HD187 (operated at 50 psi) Multiply 2.0 by 20 SPM = 40 SCFD

**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 oil reservoir with oil provided, until oil flows out of the bleed hole.  
 \*\* 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 in strokes per minute.  
 (See volume graph)

**CAUTION:** Use only light hydraulic oil.

**VOLUME**



**DISCHARGE PRESSURE**

