

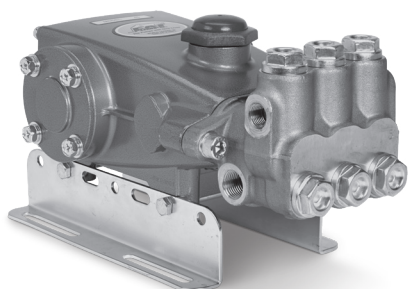
DATA SHEET

5 FRAME PLUNGER PUMPS



Brass Model: **45**

Brass Gearbox Model: **45G1**



Model 45 Shown
(Rails sold separately)

FEATURES

- Triplex plunger design ensures high efficiency and low pulsation.
- Belt-driven option provides precise flow setting.
- Direct-drive option offers a compact footprint for electric motors with a NEMA or IEC frame, or SAE hydraulic motors with a bell housing/flexible coupler assembly.
- Gearbox model available with 1" hollow shaft to fit a wide variety of engines.
- Pump comes standard with NBR seals. Alternative seal materials are available for higher temperature or chemical compatibility.

COMMON SPECIFICATIONS

	U.S.	Metric
Inlet Pressure Range	Flooded to 60 psi	Flooded to 4.1 bar
Max. Liquid Temp. (NBR)	160° F	71° C
Alternative seals available for higher-temperatures up to 180° F		
Bore	0.630"	16 mm
Crankcase Capacity	18 oz	0.53 l
Inlet Ports (2)	½" NPT(F)	½" NPT (F)
Discharge Ports (2)	⅜" NPT (F)	⅜" NPT (F)
Shaft Diameter (Single End)	0.787"	20 mm
Weight (45)	20.9 lbs	9.5 kg
Weight (45G1)	27.6 lbs	12.5 kg
Dimensions	11.99 x 8.54 x 5.47"	305 x 217 x 139 mm

SPECIFICATIONS

MODEL 45

	U.S. Measure	Metric Measure
Flow	4.5 gpm	17 lpm
Pressure Range	100–3500 psi	6.9–241 bar
Pump RPM*	1645 rpm	1645 rpm
Stroke	0.708"	18 mm

MODEL 45G1

	U.S. Measure	Metric Measure
Flow	4.5 gpm	17 lpm
Pressure Range	100–3500 psi	6.9–241 bar
Engine RPM	3353 rpm	3353 rpm
Stroke	0.708"	18 mm

*Pump minimum is 100 RPM.

ALTERNATIVE SEAL CONFIGURATION

MATERIAL	SUFFIX CODE	MAXIMUM TEMPERATURE
NBR	—	160° F (71° C)
FPM	.0110	180° F (82° C)
HT	.3000	180° F (82° C)

See **Tech Bulletin 002** for inlet conditions and RPM at high temperature.

DETERMINING THE PUMP RPM

$$\frac{\text{Rated gpm}}{\text{Rated rpm}} = \frac{\text{Desired gpm}}{\text{Desired rpm}}$$

DETERMINING THE REQUIRED HP

$$\frac{\text{Hp (Electric Brake)}}{1460} = \frac{\text{gpm x psi}}{1460}$$

DETERMINING MOTOR PULLEY SIZE

$$\frac{\text{Motor Pulley OD}}{\text{Pump rpm}} = \frac{\text{Pump Pulley OD}}{\text{Motor rpm}}$$

Refer to pump **Service Manual** for repair procedure and additional technical information.

PARTS LIST

ITEM	PART NUMBER	MATL	DESCRIPTION	QTY
5	126542	STCP R	Screw, Sems HHC (M8 x 16) (See Tech Bulletin 074)	8
8	49685	AL	Cover, Bearing (M8)	1
10	43343	NBR	O-Ring, Bearing Cover-70D	2
11	43222	NBR	Seal, Oil, Crankshaft	1
15	14480	STL	Bearing, Ball	2
20	45883	HS	Rod, Connecting Assembly (See Tech Bulletin 074)	3
25	45911	FCM	Crankshaft, Single End (M18)	1
30	45953	AL	Cover, Blind Shaft (M8)	1
32	44666	RTP	Cap, Oil Filler, Domed	1
33	14177	NBR	O-Ring, Oil Filler Cap-70D	1
37	92241	PC	Gauge, Oil, Bubble with Gasket-80D	1
38	44428	NBR	Gasket, Flat, Oil Gauge - 80D	1
40	125824	STCP R	Screw, Sems HHC (M6 x 16) (See Tech Bulletin 074)	4
48	25625	STCP	Plug, Drain (1/4" x 19 BSP)	1
49	23170	NBR	O-Ring, Drain Plug-70D	1
50	48772	AL	Cover, Rear (See Tech Bulletin 090)	1
51	48773	NBR	O-Ring, Rear Cover (See Tech Bulletin 090)	1
53	129811	AL	Crankcase (M8) (See Tech Bulletin 090)	1
64	43351	CM	Pin, Crosshead	3
65	45908	ZZCP	Rod, Plunger	3
70	43228	NBR	Seal, Oil, Crankcase	3
75	43328	S	Slinger, Barrier	3
88	45697	S	Washer, Keyhole (M18 x M10)	3
90	45783	CC	Plunger (M16 x 72)	3
95	126558	STCP R	Stud, Plunger Retainer (M6 x 64.5)	3
96	43235	PTFE	Backup Ring, Plunger Retainer	3
97	17399	NBR	O-Ring, Plunger Retainer-80D	3
98	45891	CU	Gasket, Plunger Retainer	3
99	46504	S	Retainer, Plunger (M6) (See Tech Bulletin 074)	3
100	45784	PVDF	Retainer, Seal, 2-Piece (See Tech Bulletin 105)	3
106	43316	NBR	Seal, Low-Pressure with S-Spring	3
120	45789	BB	Case, Seal	3
121	14200	NBR	O-Ring, Seal Case-70D	3
126	43320	BB	Adapter, Female	3
127	43319	SNG	V-Packing	6
128	43318	BB	Adapter, Male	3
163	17547	NBR	O-Ring, Valve Seat-85D	6
164	45790	S	Seat	6
166	46429	S	Valve	6
167	43750	S	Spring	6
168	44565	PVDF	Retainer, Spring	6
172	17549	NBR	O-Ring, Valve Plug-80D	6
173	48365	D	Backup Ring, Valve Plug	6
174	45900	BB	Plug, Valve (See Tech Bulletin 074)	6
185	45907	FBB	Head, Manifold	1
188	126520	STCP R	Screw, Sems HSH (M10 x 35) (See Tech Bulletin 074)	2
500	8065	—	Gearbox 1" Shaft (See Individual Data Sheet)	1

Bold print part numbers are unique to a particular pump model.

Italics are optional items. R Components comply with RoHS Directive. For additional technical information see www.catpumps.com/literature/tech-bulletins.

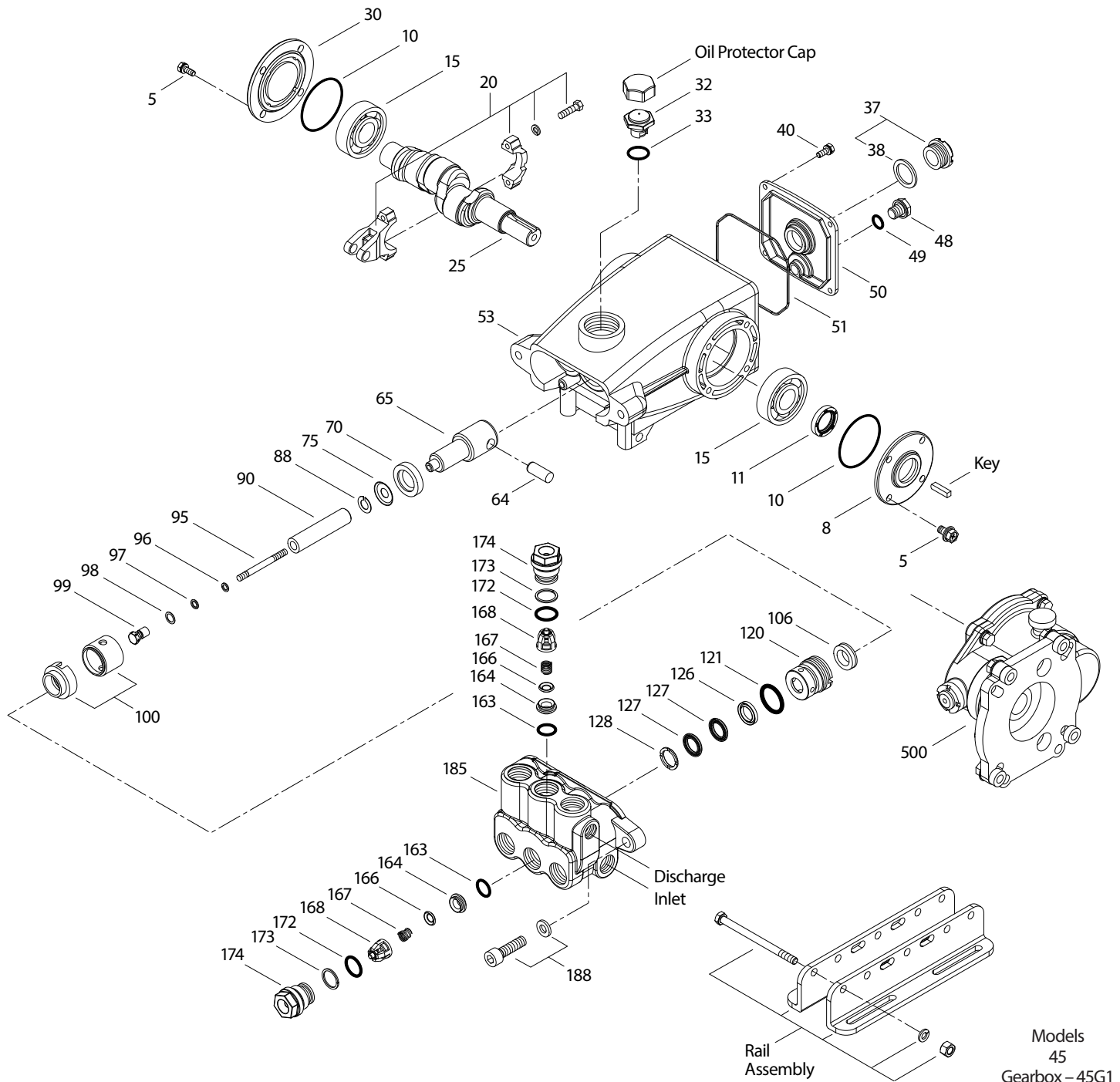
MATERIAL CODES (Not Part of Part Number): AL=Aluminum BB=Brass CC=Ceramic CM=Chrome-moly CU=Copper D=Acetal FBB=Forged Brass

FCM=Forged Chrome-moly FPM=Fluorocarbon HS=High Strength HT=Hi-Temp (EPDM Alternative) NBR=Medium Nitrile (Buna-N)

PC= Poly Carbonate PTFE=Pure Polytetrafluoroethylene PVDF=Polyvinylidene Fluoride RTP=Reinforced Composite S=304SS

SNG=Special Blend (Buna) STCP=Steel/Chrome Plated STL=Steel STZP=Steel/Zinc Plated ZZCP=Zamak/Chrome Plated

EXPLODED VIEW



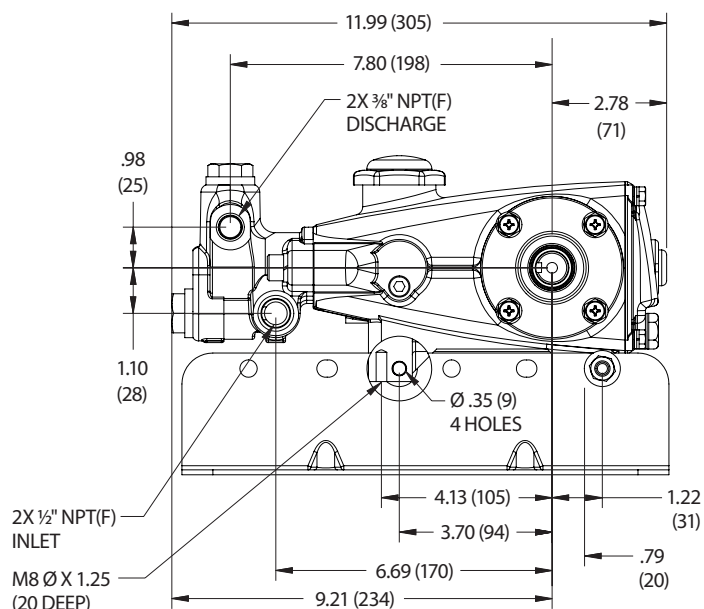
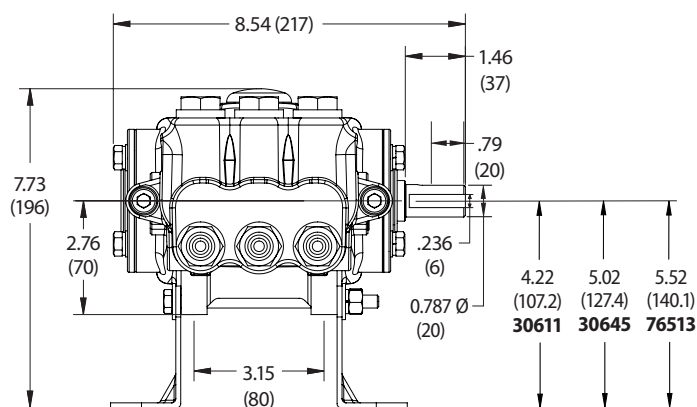
Models
45
Gearbox – 45G1
June 2023

OPTIONAL PARTS AND ACCESSORIES

PART	DESCRIPTION	QTY
30057	Key (M6 x 6 x 25)	1
30611	Assembly, Rail (4.22" See Dimensional Drawing)	1
30645	Assembly, Rail (5.02" See Dimensional Drawing)	1
76513	Assembly, Rail (5.22" See Dimensional Drawing)	1
30944	Hub, Key, Assembly	1
828710	Protector, Oil Cap	1
34334	Kit, Oil Drain (3/8" x 24") (Not Shown)	1
30696	Pliers, Reverse (Not Shown)	1
33005	Socket, Seal Case (1/2" Drive) (Not Shown)	1

SERVICE PARTS

PART	DESCRIPTION	QTY
33060	Kit, Seal – Standard NBR	1
30683	Kit, Valve – Standard NBR	2
6107	Oil, Bottle (21 oz) ISO 68 Hydraulic (Fill to Specified Crankcase Capacity Prior to Start-up)	1
6124	Gasket, Liquid (3 oz)	1



Model 45

SEAL KITS One (1) seal kit required per pump

PUMP MODELS	NBR (STD)	FPM (.0110)	HT (.3000)
45, 45G1	30629	76629	31629

ITEM (Included in Seal Kits)				DESCRIPTION	QTY
97	17399	14160	17399	O-Ring, Plunger Retainer	3
106	43316	106660	43316	Seal, Low-Pressure with S-Spring	3
121	14200	11719	14200	O-Ring, Seal Case	3
127	43319	46287	46287	V-Packing	6

VALVE KITS Two (2) valve kits required per pump

PUMP MODELS	NBR (STD)	FPM (.0110)	HT (.3000)
45, 45G1	33060	31345	33060

ITEM (Included in Valve Kits)				DESCRIPTION	QTY
163	17547	11685	17547	O-Ring, Seat	3
164	45790	45790	45790	Seat	3
166	46429	46429	46429	Valve	3
167	43750	43750	43750	Spring	3
168	44565	44565	44565	Retainer, Spring	3
172	17549	26996	17549	O-Ring, Valve Plug	3
173	48365	48365	48365	Backup Ring, Valve Plug	3

⚠ CAUTIONS AND WARNINGS

All high-pressure systems require a primary pressure regulating device (e.g. regulator, unloader) and a secondary pressure relief device (e.g. pop-off valve, relief valve). Failure to install such relief devices could result in personal injury or damage to pump or property. Cat Pumps does not assume any liability or responsibility for the operation of a customer's high-pressure system. Read all CAUTIONS and WARNINGS before commencing service or operation of any high-pressure system. The CAUTIONS and WARNINGS are included in each Service Manual and with each Accessory Data sheet. CAUTIONS and WARNINGS can also be viewed online at www.catpumps.com/dynamic-literature/cautions-and-warnings or can be requested directly from Cat Pumps.

WARRANTY

View the Limited Warranty online at www.catpumps.com/literature/cat-pumps-limited-warranty