

35 Frame Plunger Pumps

Forged Brass Model

3545HS

FEATURES

- Triplex plunger design delivers high efficiency and low pulsation.
- Durable dual V-Packings are lubricated and cooled by pumped liquid.
- Pre-Set Lo-Pressure seals provide secondary protection against external leaks and require no packing adjustment.
- Special high-density, polished, concentric ceramic plungers provide a true wear surface and extended seal life.
- Specially formulated seals and V-Packings offer unmatched performance and seal life.
- Wet-end is easily serviced without entering crankcase.

SPECIFICATIONS

	U.S. Measure	Metric Measure
Flow.....	50 gpm	(189.2 lpm)
Pressure Range.....	100 to 1500 psi	(7 to 103 bar)
Inlet Pressure Range.....	Flooded to 70 psi	(Flooded to 4.9 bar)
RPM.....	850 RPM	(850 rpm)
Bore.....	1.772"	(45 mm)
Stroke.....	1.890"	(48 mm)
Crankcase Capacity.....	4.2 Qts.	(4 l)
Maximum Liquid Temperature.....	140°F	(60°C)
Above 130°F call CAT PUMPS for inlet conditions and elastomer recommendations.		
Inlet Ports (2).....	1-1/2" NPTF	(1-1/2" NPTF)
Discharge Ports (2).....	1" NPTF	(1" NPTF)
Pulley Mounting.....	Either Side	(Either Side)
Shaft Diameter.....	1.378"	(35 mm)
Weight.....	139 lbs.	(63 kg)
Dimensions.....	23.89 x 18.11 x 9.72"	(607 x 460 x 247 mm)

INTERMITTENT DUTY CYCLE DEFINED AS:

Operating pump at stated flow and pressure for no more than 50% of time in any given hour.

ELECTRIC HORSEPOWER REQUIREMENTS

FLOW		PRESSURE			RPM
		psi 1000	psi 1250	psi 1500	
U.S. gpm	lpm	bar 69	bar 86	bar 103	
50	189	34.2	42.8	51.4	850
45	170	30.8	38.5	46.2	765
40	27.4	27.4	34.2	41.1	680

⚠ CAUTIONS AND WARNINGS

All High Pressure Systems require a primary pressure regulating device (i.e. regulator, unloader) and a secondary pressure relief device (i.e. 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/cautions-warnings or can be requested directly from CAT PUMPS.

WARRANTY

View the Limited Warranty on-line at www.catpumps.com/warranty.

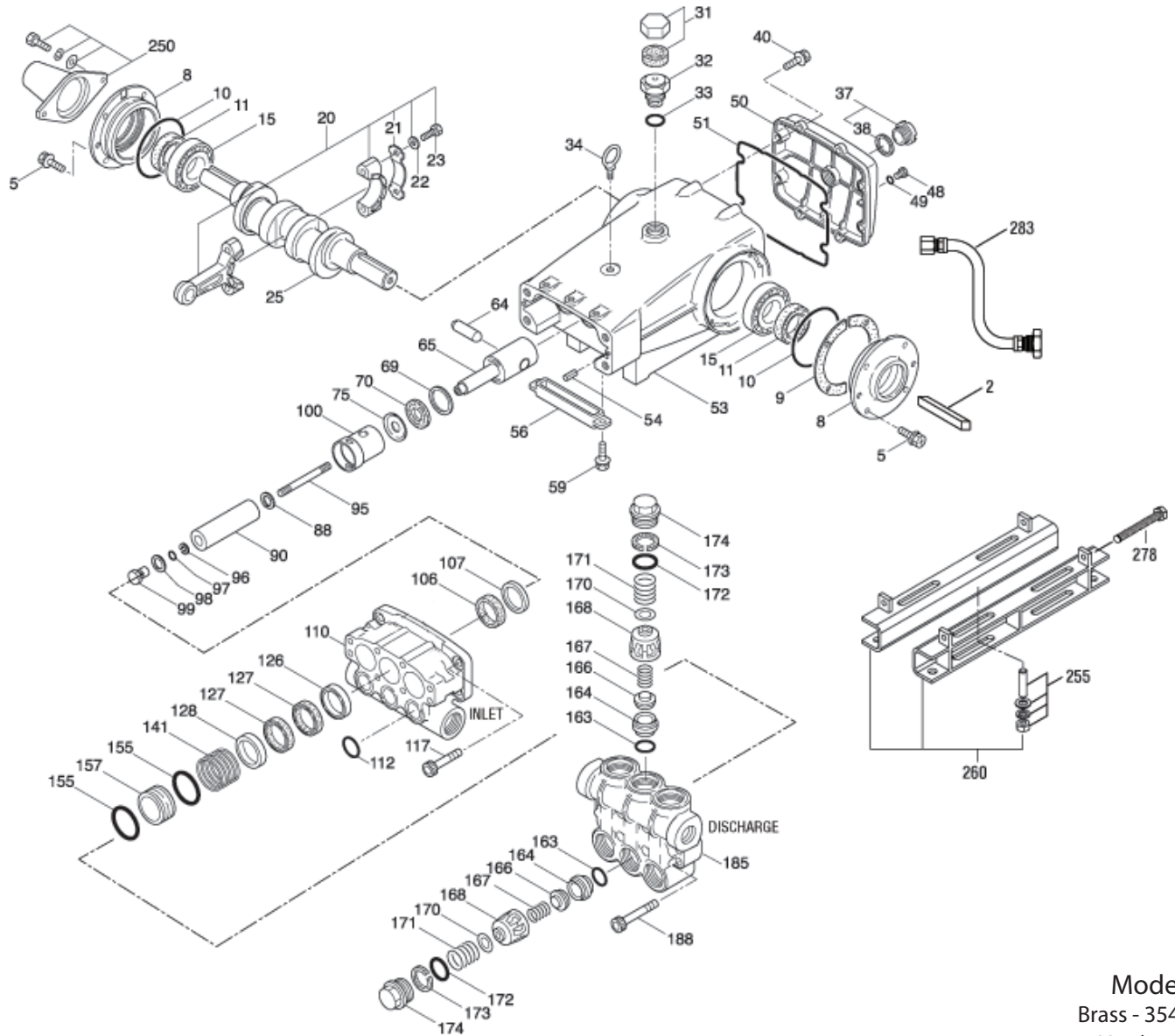
DETERMINING THE PUMP R.P.M.	Rated gpm	=	"Desired" gpm
	Rated rpm	=	"Desired" rpm
DETERMINING THE REQUIRED H.P.	gpm x psi	=	Electric Brake
	1460	=	H. P. Required
DETERMINING MOTOR PULLEY SIZE	Motor Pulley O.D.	=	Pump Pulley O.D.
	Pump rpm	=	Motor rpm

See complete Drive Packages [Incls: Pulleys, Belts, Hubs, Key] Tech Bulletin 003. Refer to pump **Service Manual** for repair procedure and additional technical information.

PARTS LIST

ITEM	PART NUMBER	MATL	DESCRIPTION	QTY
2	34021	STL	Key (M10x8x70)	1
5	125753	S	Screw, HH Sems (M8x25)	8
8	44542	AL	Cover, Bearing	2
9	815279	FBR	Shim, Split 2-PC	4
10	12398	NBR	O-Ring, Bearing Cover - 70D	2
11	13296	NBR	Seal, Oil, Crankshaft	2
15	29326	STL	Bearing, Roller	2
20	126725	BZ	Rod, Connecting Assembly (Incls: 21, 22, 23) [10/00]	3
21	126749	STCP R	Washer, Locking (M10)	6
22	126574	STZP R	Washer, Flat (M10)	6
23	122045	STZP	Screw, HH (M10x55)	3
25	29325	FCM	Crankshaft, Dual End	1
31	828710	—	Protector, Cap w/Foam Gasket	1
32	43211	ABS	Cap, Oil Filler	1
33	14177	NBR	O-Ring, Oil Filler Cap - 70D	1
34	126743	STCP R	Bolt, Eye (M12x1.75) (For Lifting Pump Only)	1
37	92241	—	Gauge, Oil, Bubble w/Gasket	1
38	44428	NBR	Gasket, Flat, Oil Gauge - 80D	1
40	125753	S	Screw, HH Sems (M8x25)	8
48	25625	STCP	Plug, Drain (1/4"x19 BSP)	1
49	23170	NBR	O-Ring, Drain Plug - 70D	1
50	45936	AL	Cover, Rear	1
51	16612	NBR	O-Ring, Crankcase Cover - 70D	1
53	44487	AL	Crankcase Assy (Incls: 34, 54)	1
54	27488	S	Pin, Guide	2
56	27790	POP	Pan, Oil	1
59	92538	S	Screw, HHC Sems (M6x16)	2
64	43864	CM	Pin, Crosshead	3
65	† 49156	SSHB	Rod, Plunger	3
69	126587	STCP R	Washer, Oil Seal	3
70	100488	NBRS	Seal, Oil, Crankcase	3
	44739	FPM	Seal, Oil, Crankcase	3
75	43865	S	Slinger, Barrier	3
88	45676	S	Washer, Keyhole (M16)	3
90	46806	CC	Plunger (M45x145)	3
95	† 89778	SS	Stud, Plunger Retainer (M10x135)	3
96	20189	PTFE	Back-up-Ring, Plunger Retainer	3
97	11345	NBR	O-Ring, Plunger Retainer - 70D	3
	11375	FPM	O-Ring, Plunger Retainer	3
	◆ 701490	EPDM	O-Ring, Plunger Retainer	3
98	44085	SS	Gasket, Retainer	3
99	† 44084	SS	Retainer, Plunger (M10)	3
100	44119	PPG	Retainer, Seal (See Tech Bulletin 105)	3
106	46809	NBR	Seal, LPS w/S-Spg	3
	702013	SFTB*	Seal, LPS w/SS-Spg	3
	◆ 46945	EPDM	Seal, LPS w/SS-Spg	3
107	46811	BB	Spacer, LPS	3
110	49482	BBCP R	Manifold, Inlet	1
112	18688	NBR	O-Ring, Inlet Manifold - 70D	3
	11739	FPM	O-Ring, Inlet Manifold	3
	◆ 701659	EPDM	O-Ring, Inlet Manifold - 70D	3
117	44585	S	Screw, HSH (M14x40)	4
126	46812	BB	Adapter, Female	3
127	46813	STG*	V-Packing	6
128	46814	BB	Adapter, Male	3
141	49483	SS	Spring, Coil, Large (See Tech Bulletin 107)	3
155	17784	NBR	O-Ring, V-Packing Spacer - 80D	3
	20138	FPM	O-Ring, V-Packing Spacer - 80D	3
	◆ 701658	EPDM	O-Ring, V-Packing Spacer - 80D	3
157	49484	BB	Spacer, V-Packing (See Tech Bulletin 107)	3
159	17784	NBR	O-Ring, V-Packing Spacer - 80D	3
	20138	FPM	O-Ring, V-Packing Spacer - 80D	3
	◆ 701658	EDPM	O-Ring, V-Packing Spacer - 80D	3
163	26143	NBR	O-Ring, Seat - 80D	6
	14331	FPM	O-Ring, Seat - 70D	6
	◆ 701660	EPDM	O-Ring, Seat	6
164	46822	S	Seat	6
166	43932	S	Valve	6
167	44109	SS	Spring, Valve	6
168	44728	PVDF	Retainer, Spring	6
170	44729	SS	Washer, Spring Retainer	6
171	44644	SS	Coil Spring (70kg), Valve Plug	6
172	89827	NBR	O-Ring, Valve Plug - 90D	6
	11747	FPM	O-Ring, Valve Plug - 90D	6
	◆ 701494	EPDM	O-Ring, Valve Plug - 70D	6
173	48364	D	Back-up-Ring, Valve Plug	6
174	46444	FBB	Plug, Valve	6
185	49486	BBCP R	Manifold, Discharge	1
188	89981	S	Screw, HSH (M12x70)	8
250	44516	NY	Protector, Shaft w/2 Screws, Washers, Lockwashers	1
255	34018	STZP R	Kit, Direct Mount	1
	34039	S	Kit, Direct Mount	1

EXPLODED VIEW



Model
Brass - 3545HS
March 2013

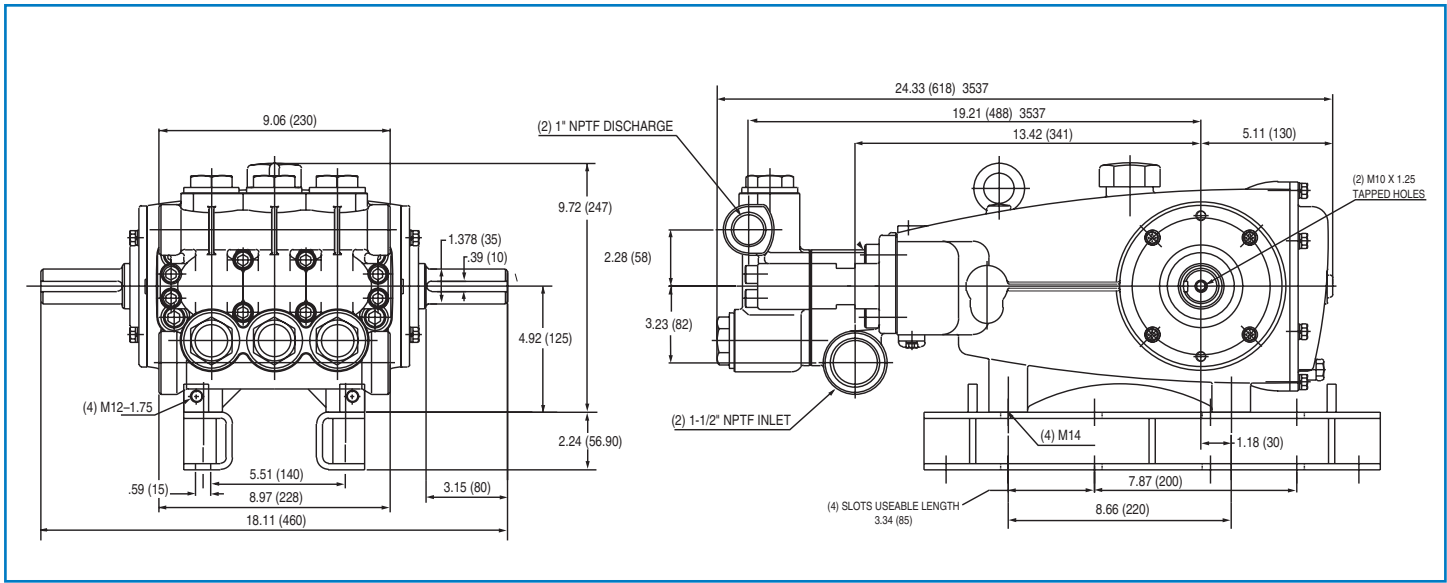
ITEM	PART NUMBER	MATL	DESCRIPTION	QTY
260	92674	STZP R	Mounting, Box Assy (Incls 34018)	1
275	990013	STL	Hub, 'B' 35mm w/Keyway [See Drive Packages Tech Bulletin 003]	1
278	80540	ZP	Screw, HH (M12x100) (Rail Adjusting Screw)	1
283	34314	—	Kit, Oil Drain (3/8" x 48")	1
290	6124	—	Gasket, Liquid (3 oz.)	1
299	818428	BBCP R	Head, Complete	1
300	33234	NBR*	Kit, Seal (Incls: 97, 106, 112, 127, 155, 159)	1
	31261	FPM	Kit, Seal (Incls: 97, 106, 112, 127, 155, 159)	1
	◆ 33223	EPDM*	Kit, Seal (Incls: 97, 106, 112, 127, 155, 159)	1
310	33235	NBR	Kit, Valve, Preassembled (Incls: 163, 164, 166, 167, 168, 170, 172, 173)	2
	31262	FPM	Kit, Valve, Preassembled (Incls: 163, 164, 166, 167, 168, 170, 172, 173)	2
	◆ 31235	EPDM	Kit, Valve, Preassembled (Incls: 163, 164, 166, 167, 168, 170, 172, 173)	2
390	714500	SS	C.A.T. (Inlet pressure stabilizer for RO and boosted inlet applications)	1
391	714506	SS	Adapter, (2 per C.A.T.) (See Data Sheet for complete selection)	2
392	701828	SS	Elbow Assy used with Adapter Assy 714506	1
—	819000	F	Assy, Crankcase, Cast Iron Conversion	1
—	6575	—	Plunger Pump Service DVD	1
—	6100	—	Oil, Case (12 Bottles) ISO-68 Hydraulic (Fill to specified crankcase capacity prior to start-up)	1
—	—	—	Lubricant, Antisize (1 oz.)	1

Bold print part numbers are unique to a particular pump model. *Italics are optional items.* [] Date of latest production change. ◆ Silicone oil/grease required.
† Production parts are different than repair parts. R Components comply with RoHS Directive. * Review individual parts in each kit for material code identification.

See Tech Bulletins 002, 003, 024, 036, 041, 043, 053, 074, 077, 083, 099, 105 and 107 for additional information.

Pressurized Inlet and C.A.T. highly recommended for Hi-Temp, R.O. and industrial applications.

MATERIAL CODES (Not Part of Part Number): ABS=ABS Plastic AL=Aluminum BB=Brass BBCP=Brass/Chrome Plated CC=Ceramic CM=Chrome-Moly D=Acetal
EPDM=Ethylene Propylene Diene Monomer F=Cast Iron FBB=Forged Brass FBR=Fiber FCM=Forged Chrome-moly FPM=Fluorocarbon
NBR=Medium Nitrile (Buna-N) NBR5=Buna, Silicone Free NY=Nylon PPG=Glass Filled Polypropylene PTFE=Pure Polytetrafluoroethylene PVDF=Polyvinylidene Fluoride
S=304SS SS=316SS SFTB=Special Blend PTFE Black SSZZ=316SS/Zamak STG=Special Blend PTFE White STL=Steel
STCP=Steel/Chrome Plated STZP=Steel/Zinc Plated TNM=Special High Strength ZP=Zinc Plated



Model 3545HS



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