

DATA SHEET

38 FRAME BLOCK-STYLE PLUNGER PUMPS

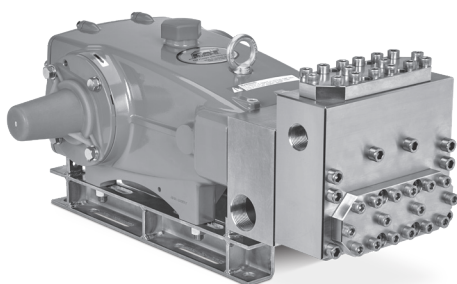


**Stainless Steel
Model:**

3841HS

**Stainless Steel
Flushed Model:**

3841KHS



Model 3841HS Shown
(Shaft protector included, mounting rails sold separately)

FEATURES

- Triplex plunger design ensures high efficiency and low pulsation.
- Advanced connecting rod and plunger rod materials optimize drive-end operation for continuous-duty applications and increase capabilities for intermittent-duty performance.
- V-packings and low-pressure seals are completely lubricated and cooled by pumped liquid, greatly increasing service life.
- Special high-density, polished, concentric plungers provide a true wear surface and extended seal life.
- Model 3841KHS offers an external flush for high-temperature or low-lubricity liquids.
- Pump comes standard with NBR seals. Alternative seal materials are available for higher temperature or chemical compatibility.

SPECIFICATIONS

	U.S. Measure	Metric Measure
Flow	45 gpm	170 lpm
Pressure Range	100–1000 psi	6.9–70 bar
Pump RPM*	765 rpm	765 rpm
Inlet Pressure Range	Flooded to 70 psi	Flooded to 4.8 bar
Max. Liquid Temp. (NBR)	160° F	71° C

Alternative seals available for higher temperatures up to 180° F

Bore	1.772"	45 mm
Stroke	1.890"	48 mm
Crankcase Capacity	4.2 qts	4 l
Inlet Ports (2)	1½" NPT(F)	1½" NPT(F)
Flush Ports (2)	½" NPT(F)	½" NPT(F)
Discharge Ports (2)	1" NPT(F)	1" NPT(F)
Shaft Diameter	1.378"	35 mm
Pulley Mounting	Either Side	Either Side
Weight	139 lbs	63 kg
Dimensions	24.84 x 18.11 x 9.88"	631 x 460 x 251 mm

ALTERNATE SPECIFICATIONS **

Flow	50 gpm	189 lpm
Pressure Range	100–1500 psi	6.9–103 bar
Pump RPM*	850 rpm	850 rpm

*Pump minimum is 100 RPM.

** Intermittent Duty Cycle Defined As:

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

ALTERNATIVE SEAL CONFIGURATION

MATERIAL	SUFFIX CODE	MAXIMUM TEMPERATURE
NBR	—	160° F (71° C)
FPM	.0110	180° F (82° C)
EPDM	.0220	160° F (71° C)

See **Tech Bulletin 002** for inlet conditions and RPM at higher temperatures.

DETERMINING THE PUMP RPM

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

DETERMINING THE REQUIRED HP

$$\frac{\text{hp (Electric Brake)}}{1460} = \frac{\text{gpm} \times \text{psi}}{1460}$$

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	PN	MATL	PN	MATL	DESCRIPTION	QTY
	3841HS		3841KHS			
5	96049	S	96049	S	Screw, HH Sems (M10 x 25) (See Tech Bulletin 074)	8
8	134604	ALE	134604	ALE	Cover, Bearing	2
9	815279	FBR	815279	FBR	Shim, Split 2-Piece	0-2
10	12398	NBR	12398	NBR	O-Ring, Bearing Cover-70D	2
11	13296	NBR	13296	NBR	Seal, Oil, Crankshaft	2
12	855049	S	855049	S	Shim, Split 2-Piece	0-2
15	29326	STL	29326	STL	Bearing, Roller	2
20	126725	BZ R	126725	BZ R	Rod, Connecting Assembly (Includes: 21, 22, 23) (See Tech Bulletin 074)	3
21	126749	STCP R	126749	STCP R	Washer, Locking	3
22	126593	STCP R	126593	STCP R	Washer, Flat (M10)	6
23	122045	STZP	122045	STZP	Screw, HH (M10 x 55)	6
25	29325	FCM	29325	FCM	Crankshaft, Dual-End (M48)	1
31	828710	PE	828710	PE	Protector, Oil Cap with Foam Gasket	1
32	43211	ABS	43211	ABS	Cap, Oil Filler	1
33	14177	NBR	14177	NBR	O-Ring, Oil Filler Cap-70D	1
34	126743	STCP R	126743	STCP R	Bolt, Eye (M12 x 1.75) (For Lifting Pump Only)	1
37	92241	PC	92241	PC	Gauge, Oil, Bubble with Gasket-80D (See Tech Bulletin 074)	1
38	44428	NBR	44428	NBR	Gasket, Flat-80D	1
40	125753	S	125753	S	Screw, HH Sems (M8 x 25) (See Tech Bulletin 074)	8
48	25625	STCP	25625	STCP	Plug, Drain (1/4" x 19 BSP)	1
49	23170	NBR	23170	NBR	O-Ring, Drain Plug-70D	1
50	45936	ALE	45936	ALE	Cover, Rear	1
51	16612	NBR	16612	NBR	O-Ring, Rear Cover-70D	1
53	134784	ALE	134784	ALE	Crankcase Assembly (Includes: 54)	1
54	27488	S	27488	S	Pin, Guide	2
64	43864	CM	43864	CM	Pin, Crosshead	3
65	49166	SSHB	49166	SSHB	Rod, Plunger	3
69	126587	STZP	126587	STZP	Washer, Oil Seal	3
70	100488	NBR	100488	NBR	Seal, Oil, Crankcase	3
75	43865	S	43865	S	Slinger, Barrier	3
88	45676	S	45676	S	Washer, Keyhole (M16)	3
90	46806	CC	46806	CC	Plunger (M45 x 145)	3
95	89778	SS	89778	SS	Stud, Plunger Retainer (M10 x 135)	3
96	20189	PTFE	20189	PTFE	Backup Ring, Plunger Retainer	3
97	11345	NBR	11345	NBR	O-Ring, Plunger Retainer-70D	3
98	44085	SS	44085	SS	Gasket, Plunger Retainer	3
99	44084	SS	44084	SS	Retainer, Plunger (M10) (See Tech Bulletin 074)	3
100	44119	PPG	44119	PPG	Retainer, Seal	3
106	48384	NBR	48384	NBR	Seal, Low-Pressure with SS-Spring	3
107	48380	D	48380	D	Spacer, Low-Pressure	3
110	701865	SS	—	—	Manifold, Inlet	1
	—	—	701982	SS	Manifold, Inlet	1
111	701116	SS	701116	SS	Plug, Inlet (1/2" NPT[M])	1
112	701632	NBR	701632	NBR	O-Ring, Inlet Spacer	6
113	701329	PTFE	701329	PTFE	Backup Ring, Inlet Spacer	6
114	701327	SS	701327	SS	Spacer, Inlet	3
117	701252	SS	701252	SS	Screw, HSH (M14 x 100) (See Tech Bulletin 074)	4
118	701077	SS	—	—	Plug (1/4" NPT[M])	3
126	48383	D	48383	D	Adapter, Female	3
127	46813	STGS	46813	STGS	V-Packing	6
128	48386	SS	48386	SS	Adapter, Male	3
141	49483	SS	49483	SS	Spring, Coil, Large	3
155	17784	NBR	17784	NBR	O-Ring, V-Packing Spacer-80D	6
157	49506	SS	49506	SS	Spacer, V-Packing	3
163	26143	NBR	26143	NBR	O-Ring, Seat-80D	6
164	48393	SS	48393	SS	Seat	6
166	44108	SS	44108	SS	Valve	6
167	44109	SS	44109	SS	Spring	6
168	44728	PVDF	44728	PVDF	Retainer, Spring	6
170	44729	SS	44729	SS	Washer, Spring Retainer	6
171	44644	SS	44644	SS	Spring, Coil (70 kg), Valve Plug	6
172	89827	NBR	89827	NBR	O-Ring, Valve Plug-90D	6
173	48364	D	48364	D	Backup Ring, Valve Plug	6
174	701278	SS	701278	SS	Plug, Valve	6
176	701316	SS	701316	SS	Cover, Valve	2
177	87951	S	87951	S	Screw, HSH (M10 x 30) (See Tech Bulletin 074)	32
185	701866	SS	701866	SS	Manifold, Discharge	1
188	701279	S	701279	S	Screw, HSH (M12 x 100) (See Tech Bulletin 074)	12
196	701342	SS	701342	SS	Plug, Discharge (1" NPT) (Not Shown)	1
250	855042	NY	855042	NY	Protector, Shaft with Two (2) Screws, Lockwashers and Washers	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.

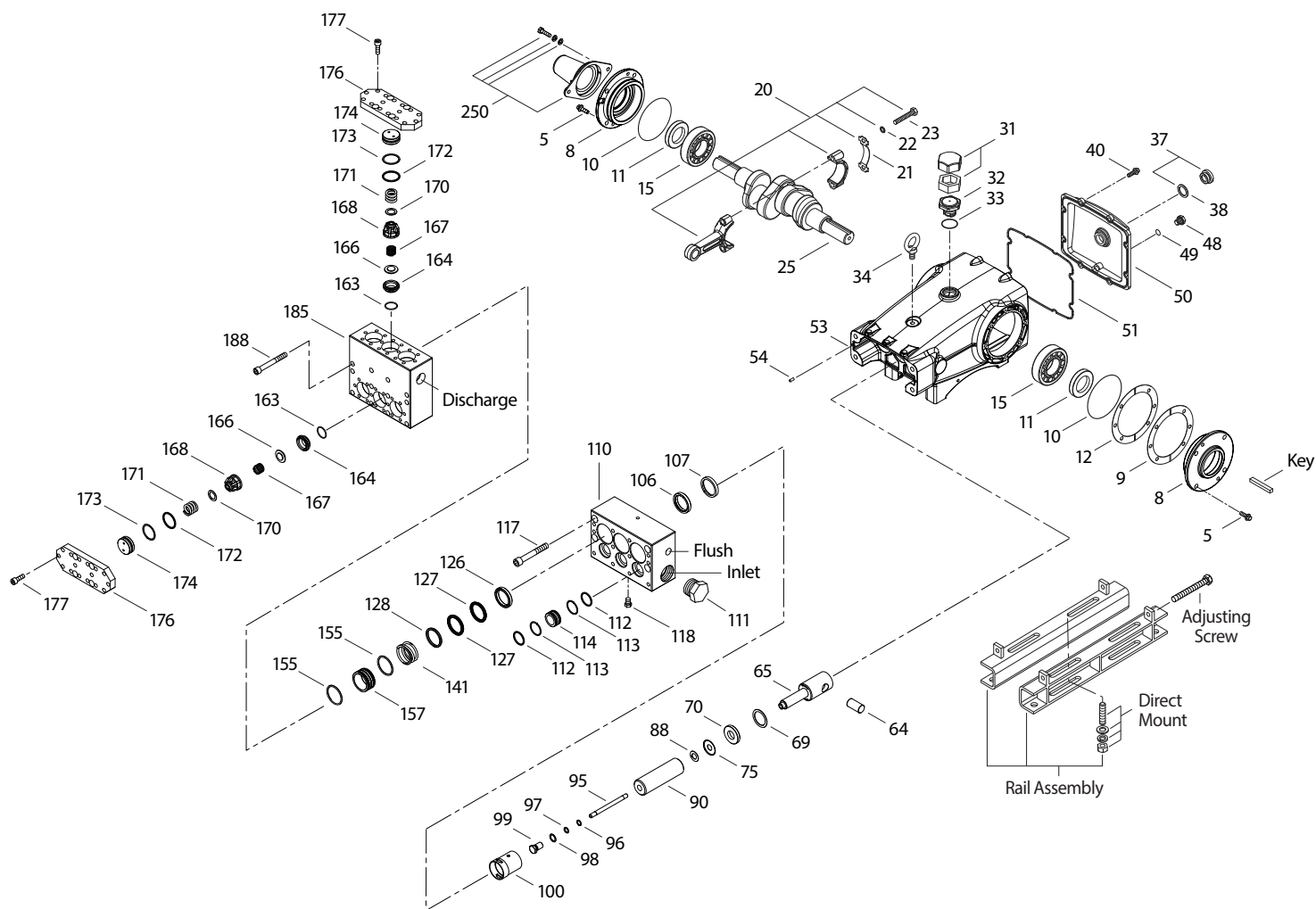
MATERIAL CODES (Not Part of Part Number): ABS=ABS Plastic ALE=Aluminum Epoxy BZ=Bronze CC=Ceramic CM=Chrome-Moly D=Acetal EPDM=Ethylene Propylene Diene Monomer F=Cast Iron

FBR=Fiber FCM=Forged Chrome-moly FPM=Fluorocarbon NBR=Medium Nitrile (Buna-N) NBR5=Buna, Silicone Free NY=Nylon PC=Poly Carbonate PE=Polyethylene POP=Polypropylene

PPG=Glass Filled Polypropylene PTFE=Pure Polytetrafluoroethylene PVDF=Polyvinylidene Fluoride S=304SS SFG=Special Blend FPM SS=316SS SSHB=316SS/High-Strength Brass

STGS=Special Blend PTFE White Silicon Free STL=Steel STCP=Steel/Chrome Plated STZP=Steel/Zinc Plated ZP=Zinc Plated

EXPLODED VIEW



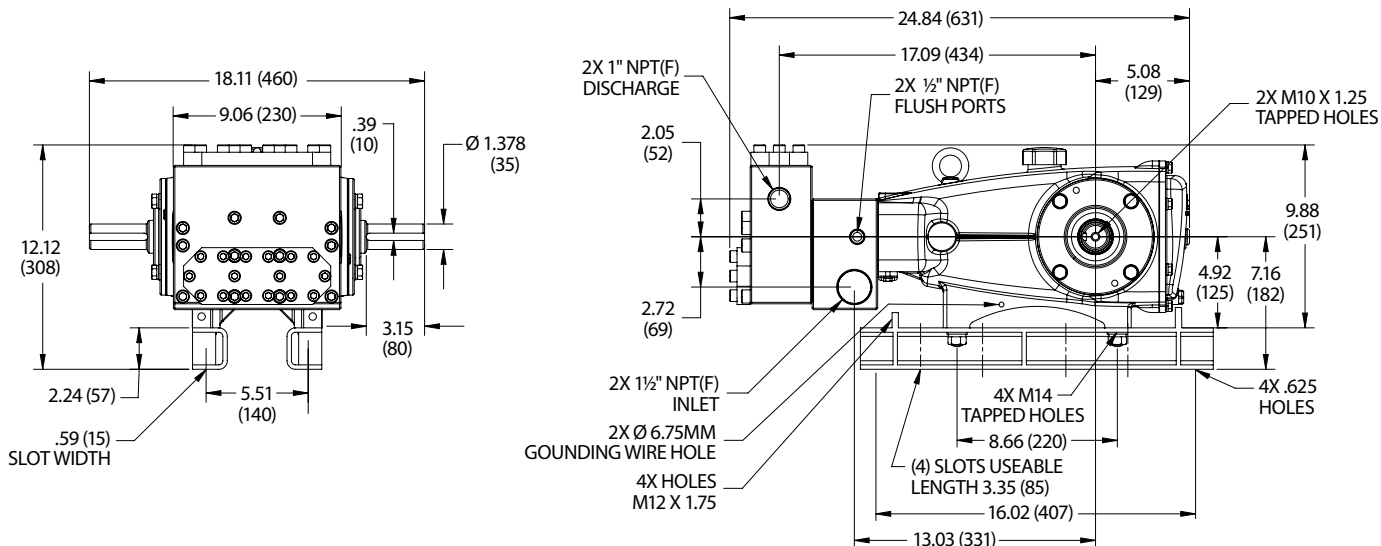
Models
3841HS
3841KHS
October 2023

OPTIONAL PARTS AND ACCESSORIES

PART	DESCRIPTION	QTY
34021	Key (M10 x 8 x 70)	1
76514	Mount, Rail Assembly (S) (Includes: 34039)	1
34039	Mount, Direct (S)	1
92674	Mount, Rail Assembly (STZP R) (Includes: 34018)	1
34018	Mount, Direct (STZP R)	1
80540	Screw, Adjusting (M12 x 100)	2
30278	Oiler (1 oz) (Not Shown)	3
34314	Kit, Oil Drain (3/8" x 48") (Not Shown)	1
990663	Assembly, Flushing, 5 gal, 115V, 1.1 AMP, 1/2" NPT (Model 3841KHS)	1
819000	Assembly, Crankcase, Cast Iron Conversion (Not Shown)	1

SERVICE PARTS

PART	DESCRIPTION	QTY
31934	Kit, Seal – Standard NBR	1
33835	Kit, Valve – Standard NBR	2
6100	Oil, Case (12–21 oz bottles) (Fill to Specific Crankcase Capacity Prior to Start-up)	1
6139	Lubricant, Anti-seize (8 oz) (See Tech Bulletin 095)	1
6124	Gasket, Liquid (3 oz)	1
32273	Crankcase Oil Seal Removal and Installation Kit (Not Shown) (Includes: Oil Seals, Guide Tool, Screws, Washers, Driver)	1
30696	Reverse Pliers (Not Shown)	1
901410	Head, Complete with NBR Seals and O-Rings (Model 3841HS)	1
901411	Head, Complete with NBR Seals and O-Rings (Model 3841KHS)	1



Models 3841HS, 3841KHS

SEAL KITS

One (1) seal kit required per pump

PUMP MODELS	NBR (STD)	FPM (.0110)	EPDM (.0220) ♦
3841HS, 3841KHS	31934*	31961*	31923*

ITEM (Included in Seal Kits)				DESCRIPTION	QTY
97	11345	11375	701490	O-Ring, Plunger Retainer	3
106	48384	702013	46945	Seal, Low-Pressure with SS-Spring	3
112	701632	701328	701973	O-Ring, Inlet Manifold	6
113	701329	701329	701329	Backup Ring, Inlet Spacer	6
127	46813	703080	46813	V-Packing	6
155	17784	20138	701658	O-Ring, V-Packing Cylinder	6

♦ Silicone oil/grease required *Review material codes for individual items (STG generally may be used as alternative)

VALVE KITS

Two (2) valve kits required per pump

PUMP MODELS	NBR (STD)	FPM (.0110)	EPDM (.0220) ♦
3841HS, 3841KHS	33835	31262	31264

ITEM (Included in Valve Kits)				DESCRIPTION	QTY
163	26143	14331	701660	O-Ring, Valve Seat	3
164	48393	48393	48393	Seat	3
166	44108	44108	44108	Valve	3
167	44109	44109	44109	Spring	3
168	44728	44728	44728	Retainer, Spring	3
170	44729	44729	44729	Washer, Spring Retainer	3
172	89827	11747	701494	O-Ring, Valve Plug	3
173	48364	48364	48364	Backup Ring, Valve Plug	3

♦ Silicone oil/grease required

⚠ 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