

DATA SHEET

SAE BELL HOUSINGS AND FLEXIBLE COUPLERS

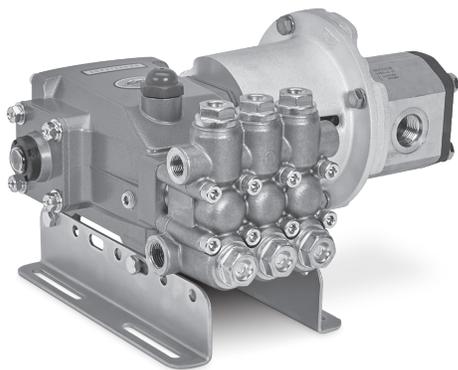


Hydraulic Bell Housing Models:

76SAEA2.3FR, 76SAEB2.3FR, 76SAEB4.3FR
76SAEA2.3CP, 76SAEB2.3CP, 76SAEB4.3CP
76SAEA2.5FR, 76SAEB2.5FR, 76SAEB4.5FR
76SAEA2.5CP, 76SAEB2.5CP, 76SAEB4.5CP
76SAEA2.7FR, 76SAEB2.7FR, 76SAEB4.7FR
76SAEA2.7CP, 76SAEB2.7CP, 76SAEB4.7CP

Flexible Coupler Models:

8271, 8272, 8273, 8274, 8371, 8372



Bell Housing Assembly and Flexible Coupler Assembly
(Model 5CP3120CSS, rails and hydraulic motor sold separately)

FEATURES

- Bell housing design eliminates the need for belt selection, sizing and adjustments.
- Creates optimal shaft alignment, which reduces side-loading for quiet, trouble-free operation.
- Bell Housing is cast from lightweight, high-strength aluminum alloy.
- Compact direct mounting design reduces the space required compared to belt or gearbox drive assemblies.
- Ease of assembly reduces fabrication costs.
- Available as a completely assembled unit from Cat Pumps for fast and convenient assembly or as individual components.
- Designed to fit 3CP, 3 Frame, 5CP, 5 Frame, 7CP and 7 Frame pumps.

PARTS LIST

Bell Housing Assemblies

Pump Series	Models	SAE Type	Bell Housing Assembly
3CP Series	All 3CP Models	A2	76SAEA2.3CP
		B2	76SAEB2.3CP
		B4	76SAEB4.3CP
3FR Series	All 3 Frame Models	A2	76SAEA2.3FR
		B2	76SAEB2.3FR
		B4	76SAEB4.3FR
5CP Series	All 5CP Models	A2	76SAEA2.5CP
		B2	76SAEB2.5CP
		B4	76SAEB4.5CP
5FR Series	All 5 Frame Models	A2	76SAEA2.5FR
		B2	76SAEB2.5FR
		B4	76SAEB4.5FR
7CP Series	All 7CP Models	A2	76SAEA2.7CP
		B2	76SAEB2.7CP
		B4	76SAEB4.7CP
7FR Series	All 7 Frame Models	A2	76SAEA2.7FR
		B2	76SAEB2.7FR
		B4	76SAEB4.7FR

Bell Housing Assemblies include bell housing and mounting hardware, flange adapter with screws, hydraulic adapter plate and screws.

SAE TYPE:

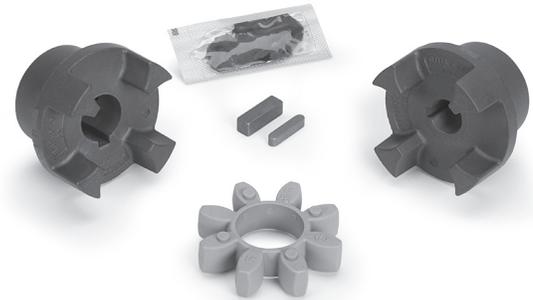
A2 = SAE "A" 2 Bolt, 3.25" Pilot

B2 = SAE "B" 2 Bolt, 4" Pilot

B4 = SAE "B" 4 Bolt, 4" Pilot



76SAEB4.7FR Bell Housing Assembly Shown



8271 Coupler Shown

PARTS LIST

Flexible Coupler Assemblies

	8271	8272	8273	8274	8371	8372
SAE Type	A2	B2, B4	A2	B2, B4	A2	B2, B4
Motor Shaft Ø	5/8"	7/8"	5/8"	7/8"	5/8"	7/8"
Coupler Half, Motor	998563	38297	998563	38297	998563	38297
Coupler Half, Pump	38290	38290	38287	38287	38291	38291
Motor Shaft Key	5/32"	1/4"	5/32"	1/4"	5/32"	1/4"
Pump Shaft Ø	16.5 mm	16.5 mm	20 mm	20 mm	24 mm	24 mm
Pump Shaft Key	5 mm	5 mm	6 mm	6 mm	8 mm	8 mm
Key, Pump	30047	30047	30057	30057	30067	30067
Spyder	34410	34410	34410	34410	991903	991903
Spyder (Color)	Purple	Purple	Purple	Purple	Light Green	Light Green
Torque Rating	74 ft-lbs	74 ft-lbs	74 ft-lbs	74 ft-lbs	92 ft-lbs	92 ft-lbs

INSTALLATION

Hydraulic bell housing and flexible coupling

1. Separate the parts included in the bell housing and/or flexible coupler assembly packages. Both assemblies are offered in separate kits to cover the various torque ratings and pump models.
 2. Remove the bearing cover screws from the extended shaft side of the pump and discard the screws. New screws are supplied in the bell housing assembly.
 3. On the 7CP and 7FR bell housing assemblies, mount the pump adapter with counter-sunk holes facing away from the pump. Install conical lock washers. Apply Loctite® 242® to the threads of the screws provided in the assembly and torque to 50 in-lbs, 5.7 N-m for M6 screws and 115 in-lbs, 13 N-m for M8 screws in an alternating rotation.
- Note:** The 3CP, 3FR, 5CP and 5FR bell housing assemblies do not include an additional adapter plate.
4. From the side where the bearing cover screws are removed, slide the small end of the bell housing over the pump shaft with the Cat Pumps logo facing up and positioned 22° from the top.
 5. Install conical lock washers. Apply Loctite® 242® to the threads of the screws provided in the assembly and torque to 50 in-lbs, 5.7 N-m for M6 screws and 115 in-lbs, 13 N-m for M8 screws in an alternating rotation.
 6. Apply a light film of anti-seize lubricant to the pump shaft.
 7. Install the key on the pump shaft.
 8. Separate 16.5mm, 20mm or 24mm half of the flexible coupler with the spyder.
 9. Remove two (2) set screws from the 16.5mm, 20mm, or 24mm coupler half. Apply Loctite® 242® to the threads and then reinstall into the coupler half.
 10. Slide the coupler half onto the pump shaft. Seat completely against the step on the crankshaft.
 11. Insert a 3mm hex wrench into each set screw and tighten enough to hold the key and coupler in place. Tighten these screws to torque specifications in the final step.
- Note:** One set screw is at the keyway, and the second is at 90° from the keyway.
12. Apply a light film of anti-seize lubricant to the motor shaft.
 13. Install the motor key (supplied with motor) onto the motor shaft keyway.
 14. Remove two (2) set screws from the motor coupler half or one (1) cross-clamp screw from the motor coupler half. Apply Loctite® 242® to threads and then reinstall into the coupler half.
 15. Slide the motor half of the flexible coupler containing the spyder onto the motor shaft.
 16. Position the adapter flange to the hydraulic bell housing with the cast word PUMP facing the pump and located at the top.
 17. Apply Loctite® 242® to the threads of screws. Insert four (4) screws and lock washers from the pump side. Torque to 150 in-lbs, 16.9 N-m for 3/8" screws and 300 in-lbs, 32.4 N-m for 1/2" screws in an alternating rotation.
 18. Mount the motor with coupling half onto the pump shaft with the coupling half, lining up the two halves.
 19. Apply Loctite® 242® to the threads of screws. Insert two (2) screws and lock washers through the motor mounting facet and hand thread into the adapter flange. Torque to 300 in-lbs, 34 N-m for 3/8" or 1/2" screws.
 20. To secure flexible coupling with a set screw, insert a screwdriver into the bell housing and press the flexible coupler towards the pump.
- Note:** Flexible coupler halves should not contact each other. Ensure there is a small gap between the two coupler halves.
21. Rotate the motor shaft so set screws are lined up with bell housing opening.
- Note:** One set screw is located at the keyway and the second at 90° from the keyway.
22. Insert a 3mm hex wrench into each coupler set screw and torque to 120 in-lbs, 13.5 N-m

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Torque Specifications Chart

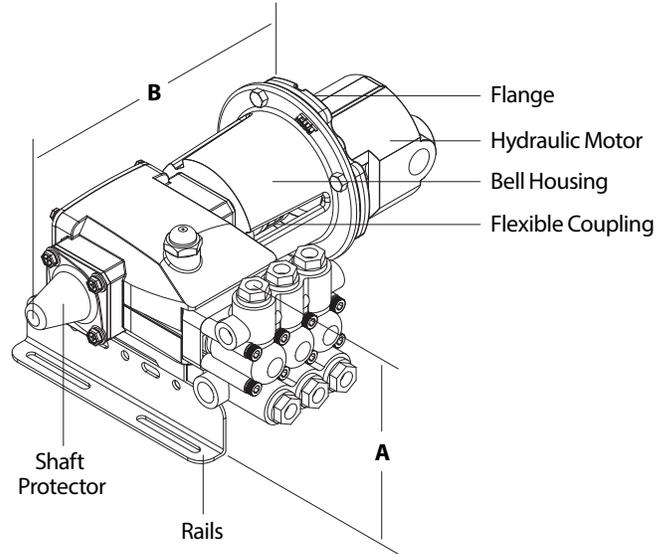
Screw	Thread Size	Tool	in-lbs	ft-lbs	N-m
Adapter to Pump (7FR)	M6	4mm Hex Wrench	50	4.2	5.7
Adapter to Pump (7CP)	M8	5mm Hex Wrench	115	9.6	13
Bell Housing to Adapter (7FR, 7CP)	M6	4mm Hex Wrench	50	4.2	5.7
Bell Housing to Adapter (3FR, 5FR)	M6	4mm Hex Wrench	50	4.2	5.7
Bell Housing to Adapter (3CP, 5CP)	M8	5mm Hex Wrench	115	9.6	13
Flange to Bell Housing	3/8"	5/16" Wrench	150	12.5	16.9
Flange to Bell Housing	1/2"	3/4" Wrench	300	25	32.4
Motor to Flange (2 or 4 Bolt)	3/8"	3/4" Combination Wrench	300	25	34
Motor to Flange (2 or 4 Bolt)	1/2"	3/4" Combination Wrench	300	25	34
Coupler Set Screws	M4	3mm Hex Wrench	120	10	13.5

DIMENSIONAL DRAWINGS

Pump and Bell Housing

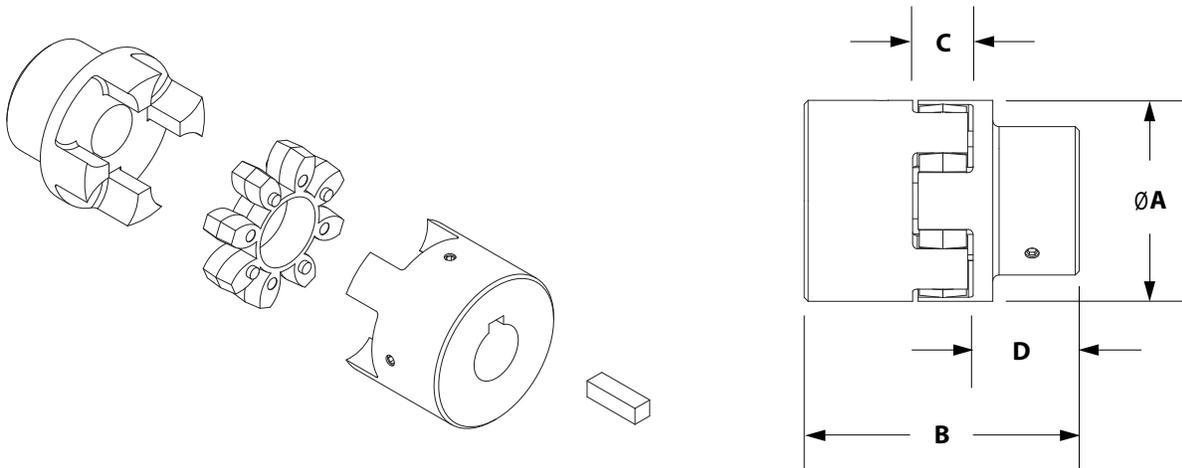
Models	Rail Part Number	A	B
3FR	30612	5.70"	12.13"
3CP	30612	6.25"	12.13"
5FR	30611	6.73"	13.19"
5CP	30611	7.33"	13.19"
7FR	30645	8.67"	12.09"
7CP	30613	9.08"	12.95"

Note: Overall length will vary depending upon hydraulic motor selection



Flexible Coupler Assemblies

Models	ØA	B	C	D
8271	2.56" (65.02mm)	3.49" (88.64mm)	.77" (19.55mm)	1.37" (34.79mm)
8272	2.56" (65.02mm)	3.47" (88.13mm)	.77" (19.55mm)	1.35" (34.29mm)
8273	2.56" (65.02mm)	3.52" (89.40mm)	.77" (19.55mm)	1.37" (34.79mm)
8274	2.56" (65.02mm)	3.50" (88.90mm)	.77" (19.55mm)	1.35" (34.29mm)
8371	2.56" (65.02mm)	3.52" (89.40mm)	.77" (19.55mm)	1.37" (34.79mm)
8372	2.56" (65.02mm)	3.50" (88.90mm)	.77" (19.55mm)	1.35" (34.29mm)



⚠ 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