

DATA SHEET

SAE BELL HOUSINGS AND COUPLERS



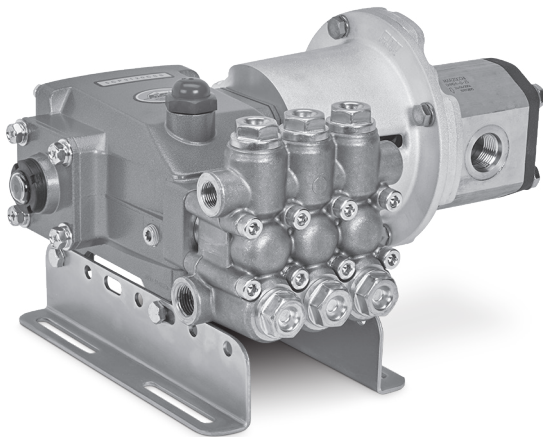
The Pumps with Nine Lives

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 Coupling Models:

8271, 8272, 8273, 8274, 8371, 8372



Model 5CP3120CSS Shown

Bell housing, flexible coupling assembly shown with rails
and hydraulic motor. Pump, rails and motor sold separately.

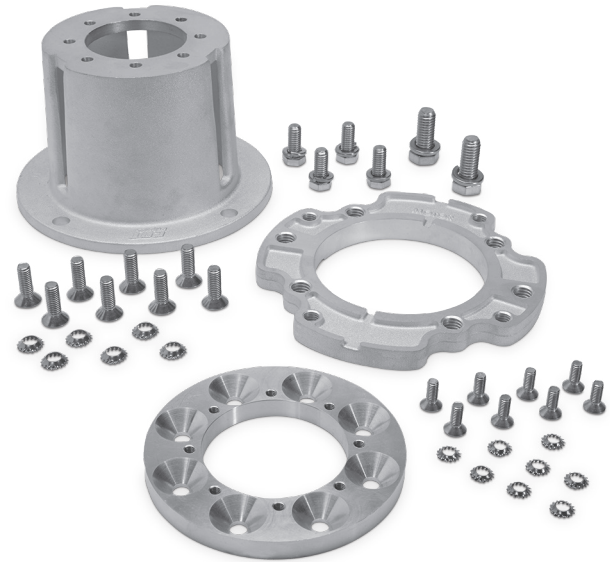
FEATURES

- Optimal alignment reduces side-loading for quiet, trouble-free operation
- Compact direct mounting reduces space requirement
- Cast from lightweight, high-strength aluminum alloy
- Ease of assembly reduces fabrication costs
- Slotted housing allow easy access to coupler set screws
- Available as a complete drive package for fast and convenient assembly
- 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 | 3CP1120-1140, 3CP1231-1241 | A2 | 76SAEA2.3CP |
| | | B2 | 76SAEB2.3CP |
| | | B4 | 76SAEB4.3CP |
| 3FR Series | 230, 240, 270, 231, 241, 271, 237, 247, 277 | A2 | 76SAEA2.3FR |
| | | B2 | 76SAEB2.3FR |
| | | B4 | 76SAEB4.3FR |
| 5CP Series | 5CP3105, 3110, 3160, 3120, 5CP4120, 5120, 6120, 6190, 5CPQ6221-6251 | A2 | 76SAEA2.5CP |
| | | B2 | 76SAEB2.5CP |
| | | B4 | 76SAEB4.5CP |
| 5FR Series | 340, 350, 341, 351, 347, 357 | A2 | 76SAEA2.5FR |
| | | B2 | 76SAEB2.5FR |
| | | B4 | 76SAEB4.5FR |
| 7CP Series | 7CP6110CS, 7CP6111CS | A2 | 76SAEA2.7CP |
| | | B2 | 76SAEB2.7CP |
| | | B4 | 76SAEB4.7CP |
| 7FR Series | 56, 60, 700, 781 | 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:

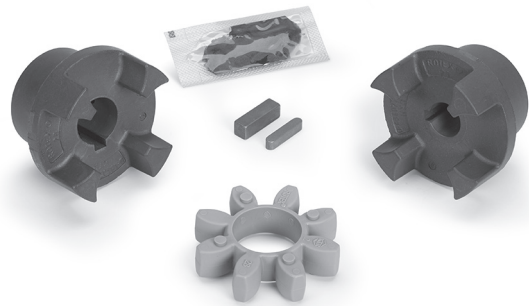
A2 = SAE "A" 2 Bolt, 3.25" Pilot

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

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

Flexible Coupler Assemblies

| Pump Series | SAE Type | Flex Coupler Assy | Shaft to Shaft | Torque Rating (ft-lbs) | Weight (lbs) |
|-------------|----------|-------------------|----------------|------------------------|--------------|
| 3CP & 3FR | A2 | 8271 | 16.5mm x 5/8" | 74 | 1.26 |
| | B2, B4 | 8272 | 16.5mm x 7/8" | 74 | 1.22 |
| 5CP & 5FR | A2 | 8273 | 20mm x 5/8" | 74 | 0.97 |
| | B2, B4 | 8274 | 20mm x 7/8" | 74 | 0.93 |
| 7CP & 7FR | A2 | 8371 | 24mm x 5/8" | 92 | 1.20 |
| | B2, B4 | 8372 | 24mm x 7/8" | 92 | 1.81 |



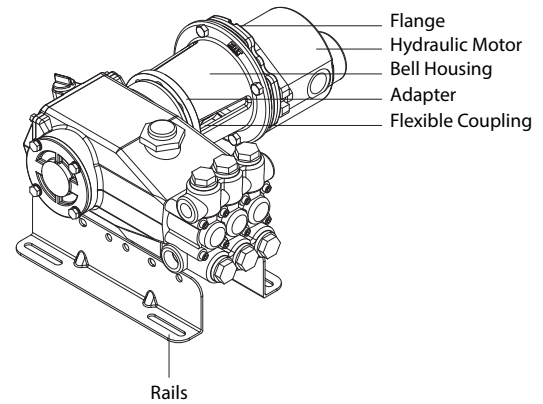
Flexible Coupler Part Numbers

| | 8271 | 8272 | 8273 | 8274 | 8371 | 8372 |
|---------------------|--------|--------|--------|--------|-------------|-------------|
| SAE Type | A | B | A | B | A | B |
| Motor Shaft Ø | 5/8" | 7/8" | 5/8" | 7/8" | 5/8" | 7/8" |
| Motor Shaft Key | 5/32" | 1/4" | 5/32" | 1/4" | 5/32" | 1/4" |
| Coupler Half, Motor | 998563 | 38297 | 998563 | 38297 | 998563 | 38297 |
| Pump Shaft Ø | 16.5mm | 16.5mm | 20mm | 20mm | 24mm | 24mm |
| Pump Shaft Key | 5mm | 5mm | 6mm | 6mm | 8mm | 8mm |
| Key, Pump | 30047 | 30047 | 30057 | 30057 | 30067 | 30067 |
| Coupler Half, Pump | 38290 | 38290 | 38287 | 38287 | 38291 | 38291 |
| Spyder | 34410 | 34410 | 34410 | 34410 | 991903 | 991903 |
| Spyder Color | Purple | Purple | Purple | Purple | Light Green | Light Green |

PARTS LIST

Rail Selection

| | Part Number |
|-----|-------------|
| 3FR | 30612 |
| 3CP | 30612 |
| 5FR | 30611 |
| 5CP | 30611 |
| 7FR | 30645 |
| 7CP | 30613 |



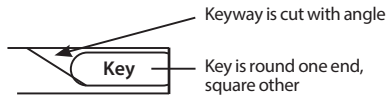
INSTALLATION

Hydraulic bell housing and flexible coupling

1. Separate the parts which are included in the hydraulic bell housing assembly package and/or flexible coupler assembly package. Both assemblies are offered in separate kits to cover the various pump models.

Note: Pump model series 7FR and 7CP require an additional adapter to be installed between the pump and hydraulic bell housing.

2. Position this adapter with countersunk holes facing away from pump. Install conical lockwasher to each screw. Apply Loctite® 242® to the threads of the screws and torque to specifications per chart.
3. On the pump side, slide the small end of the hydraulic bell housing over the pump shaft with the Cat Pumps logo facing up and positioned 22° from the top.
4. Install conical lockwasher to each screw. Apply Loctite® 242® to the threads of the screws. Use a 4mm or 5mm allen wrench and torque to specifications per chart.
5. Apply a light film of antiseize lubricant to pump shaft.
6. Separate M16.5, M20 or M24 pump half of the flexible coupling and slide onto the pump shaft. Seat completely against the step on crankshaft.
7. Install pump key onto pump shaft with curved end up and towards pump.



8. Tighten each set screw by using a 3mm allen wrench and torque to specifications per chart.

Note: one set screw located at keyway and second at 90° from keyway.

9. Apply a light film of antiseize lubricant to motor shaft.
10. Install motor key (as supplied with motor) onto motor shaft keyway.
11. On the motor side, slide 5/8" or 7/8" motor half of the flexible coupling onto motor shaft.
12. Install spyder onto motor side of flexible coupling.
13. Position adapter flange to the hydraulic bell housing with the cast word "PUMP" facing the pump and located at the top.
14. Insert four (4) screws and lockwashers from the pump side. Torque to specifications per chart.
15. Mount motor with coupling half onto pump shaft with coupling half, lining up the two halves.
16. Insert two (2) screws and lockwashers through motor bracket and hand thread into adapter flange. Torque to specifications per chart.
17. To secure motor side flexible coupling with set screw, insert a screwdriver into the hydraulic bell housing and press motor flexible coupling half towards pump.

Note: flexible coupler halves should not contact each other. Ensure there is a small gap between coupler halves.

18. Rotate motor shaft so set screws are lined up with hydraulic bell housing openings.

Note: one set screw located at keyway and second at 90° from keyway.

19. For 5/8" coupler halves, use a 4mm allen wrench to tighten set screws and torque to specifications per chart. For 7/8" coupler halves, use a 3mm allen wrench to tighten set screws and torque to specifications per chart.

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Torque Specifications Chart

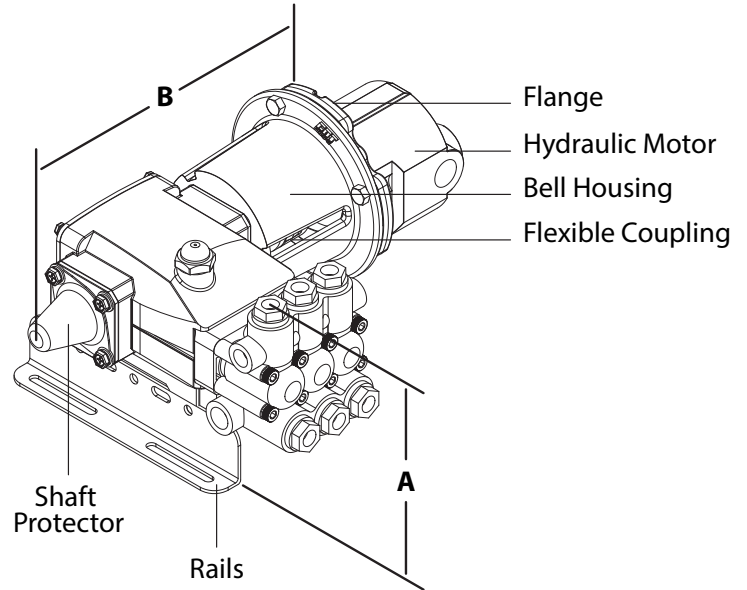
| Screw | Tool | in-lbs. | ft-lbs. | Nm. |
|--------------------|-----------------|---------|---------|------|
| Coupler Set Screws | 3 or 4 mm allen | 120 | 10 | 13 |
| M6 | 4mm allen | 50 | 4.2 | 5.4 |
| M8 | 5mm allen | 115 | 9.6 | 12.5 |
| 3/8" | 9/16" wrench | 150 | 12.5 | 16.2 |
| 1/2" | 3/4" wrench | 300 | 25 | 32.4 |

DIMENSIONAL DRAWINGS

Pump and Bell Housing

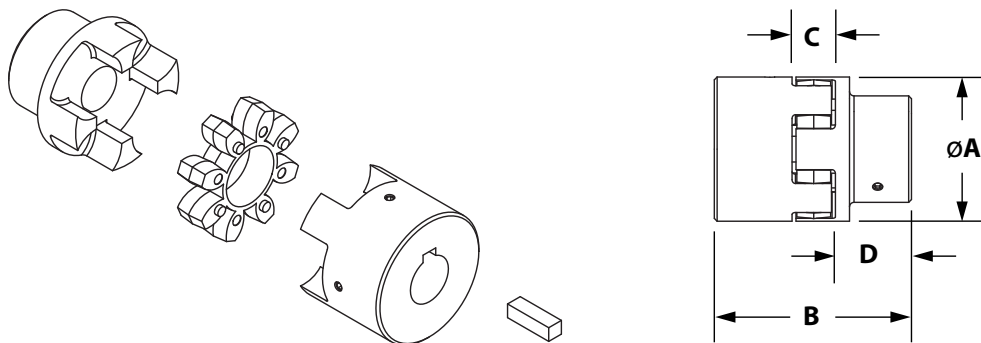
| | A | B |
|-----|------|-------|
| 3FR | 5.70 | 12.13 |
| 3CP | 6.25 | 12.13 |
| 5FR | 6.73 | 13.19 |
| 5CP | 7.33 | 13.19 |
| 7FR | 8.67 | 12.09 |
| 7CP | 9.08 | 12.95 |

Note: Overall length will vary pending hydraulic motor selection



Flexible Coupling Assemblies

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



⚠ 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.