

# DATA SHEET

## NEMA BELL HOUSING AND FLEXIBLE COUPLING



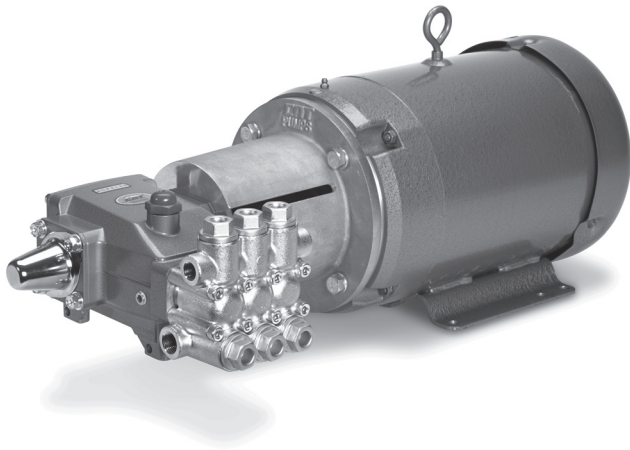
*The Pumps with Nine Lives*

### Bell Housing Models:

**76056.3CP, 76056.3FR, 76056.5CP, 76056.5FR,  
76056.7CP, 76184.3CP, 76184.3FR, 76184.5CP,  
76184.5FR, 76184.7CP, 76184.7FR, 76215.3CP,  
76215.3FR, 76215.5CP, 76215.5FR, 76215.7CP,  
76215.7FR, 76256.5CP, 76256.7CP, 76256.7FR**

### Flexible Coupling Models:

**8210, 8215, 8217, 8218, 8220, 8225, 8230,  
8260, 8261, 8270, 8275, 8370, 8375, 8380**



Model 5CP2150W Shown

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

### FEATURES

- Eliminates belt selection, sizing and adjusting.
- Compact direct mounting feature reduces space required for belts or gearbox drive assemblies.
- Insulates against heat transfer.
- Special urethane flexible spyder designed for extended life with high temperature and high RPM.
- Complete assembled units from Cat Pumps include pump, shaft protector, bell housing, flange adapter, flexible coupler, mounting hardware and motor.
- Designed to fit 3CP, 3 Frame, 5CP, 5 Frame, 7CP and 7 Frame pumps.

# PARTS LIST

## Bell Housing Assemblies

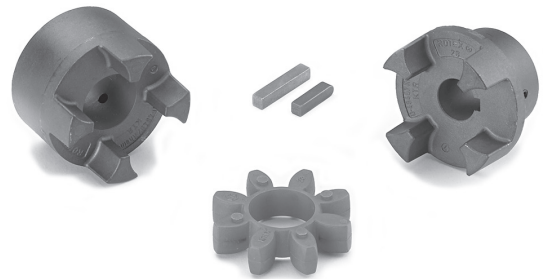
Pump Series	Models	Motor Frame	Bell Housing Assy
3CP Series	All 3CP Models	56C - 145TC	76056.3CP
		182/184TC	76184.3CP
		213/215TC	76215.3CP
3FR Series	230, 231, 237, 240, 241, 247, 270, 271, 277	56C - 145TC	76056.3FR
		182/184TC	76184.3FR
		213/215TC	76215.3FR
5CP Series	All 5CP Models	56C - 145TC	76056.5CP
		182/184TC	76184.5CP
		213/215TC	76215.5CP
		254/256TC	76256.5CP
5FR Series	30, 340, 341, 347, 350, 351, 357	56C - 145TC	76056.5FR
		182/184TC	76184.5FR
		213/215TC	76215.5FR
7CP Series	All 7CP Models	56C - 145TC	76056.7CP
		182/184TC	76184.7CP
		213/215TC	76215.7CP
		254/256TC	76256.7CP
7FR Series	56 - 60, 700 - 760, 781 - 786	182/184TC	76184.7FR
		213/215TC	76215.7FR
		254/256TC	76256.7FR



Bell Housing Assemblies include bell housing and mounting hardware.

## Flexible Coupler Assemblies

Pump Series	Motor Frame	Flex Coupler Assy	Shaft to Shaft	Torque Rating (ft-lbs)	Weight (lbs)
3CP & 3FR	56C	8215	16.5mm x 5/8"	27	0.58
	145TC	8210	16.5mm x 7/8"	27	0.55
	182/184TC	8220	16.5mm x 1 1/8"	27	0.67
	182/184TC	8225	16.5mm x 1 1/8"	74	1.16
	213/215TC	8270	16.5mm x 1 3/8"	92	0.55
5CP & 5FR	56C	8261	20mm x 5/8"	74	1.00
	145TC	8260	20mm x 7/8"	74	0.92
	182/184TC	8230	20mm x 1 1/8"	74	1.15
	213/215TC	8275	20mm x 1 3/8"	92	1.07
7CP & 7FR	254/256TC	8217	20mm x 1 5/8"	150	5.80
	56C - 145TC	8218	24mm x 5/8"	74	1.16
	182/184TC	8370	24mm x 1 1/8"	74	4.60
	213/215TC	8375	24mm x 1 3/8"	74	3.41
	254/256TC	8380	24mm x 1 5/8"	150	5.76



# PARTS LIST

## Flexible Coupler Models Assemblies

	8215	8210	8218	8220	8225	8270	8261	8260	8230	8275	8217	8370	8375	8380
Motor frame	56C	145TC	56C	182/ 184TC	182/ 184TC	213/ 215TC	56C	145TC	182/ 184TC	213/ 215TC	254/ 256TC	182/ 184TC	213/ 215TC	254/ 256TC
Shaft to Shaft Dimension	M16.5 to 5/8"	M16.5 to 7/8"	M24 to 5/8"	M16.5 to 1 1/8"	M16.5 to 1 1/8"	M16.5 to 1 3/8"	M20 to 5/8"	M20 to 7/8"	M20 to 1 1/8"	M20 to 1 3/8"	M20 to 1 5/8"	M24 to 1 1/8"	M24 to 1 3/8"	M24 to 1 5/8"
Coupler Half, Motor	38283	38289	38295	38285	38286	38292	38295	38293	38286	38292	31543	31528	31533	31543
Coupler Half, Pump	38284	38284	38291	38284	38290	38290	38287	38287	38287	38287	999617	31519	31519	31538
Key size (mm)	5	5	8	5	5	5	6	6	6	6	6	8	8	8
Key, Pump	30047	30047	30067	30047	30047	30047	30057	30057	30057	30057	30057	30067	30067	30067
Spyder	34406	34406	34410	34406	34410	991903	34410	34410	34410	991903	31544	34410	34410	31544
Spyder Color	Purple	Purple	Purple	Purple	Purple	Green	Purple	Purple	Purple	Green	Purple	Purple	Purple	Purple
Weight (lbs.)	0.58	0.55	1.16	0.67	1.16	0.55	1.0	0.92	1.15	1.07	5.80	4.6	3.41	5.76

## INSTALLATION

### Bell Housing and Flexible Coupler

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

2. Remove bearing case screws from extended shaft side of pump and discard screws. New screws are supplied in bell housing assembly.

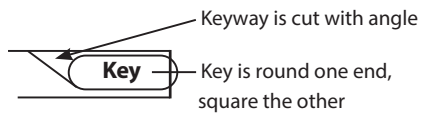
**Note:** When mounting bell housing to 7 or 8 frame plunger pump, ensure all eight (8) holes are tapped, and the bearing race, o-ring and oil seal are removed from the cover and transferred to the new bearing cover. See Tech Bulletin 121 for more information.

3. Slip the bell housing over the pump shaft with the Cat Pumps logo facing up.
4. Install conical lock washers. Apply Loctite® 242® to the threads of the screws provided in the assembly and torque to **50 in-lbs (5.4 Nm)** for M6 screws and **115 in-lbs (13 Nm)** for M8 screws in alternating rotation.

5. Apply a light film of antiseize lubricant to pump shaft.

6. Separate M16.5, M20 or M24 half of the flexible coupling and slide onto the pump shaft.

Seat completely against the step on crankshaft.



7. Install key into pump shaft with curved end up and towards pump.

- 8.\* Insert 3mm allen wrench into each set screw and torque to **125-150 in-lbs (15 Nm)**.

9. Slide 5/8", 7/8", 1 1/8", 1 3/8" or 1 5/8" half of flexible coupling containing spyder onto motor shaft.
10. Install motor key (supplied with motor) into motor shaft keyway and apply antiseize lubricant to shaft.
11. Mount pump with coupling half onto motor shaft with coupling half, lining up the two halves. Apply Loctite® 242® to threaded area of the bolts, slip lockwashers onto bolts and thread through flange into motor. Torque to **110 in-lbs (12 Nm)** for 3/8" or **300 in-lbs (34 Nm)** for 1/2".
12. To secure flexible coupling with set screw, insert screwdriver into the bell housing and press flexible coupling towards pump. NOTE: Flexible coupler halves should not contact each other. Ensure there is a small gap between coupler halves.
13. Rotate motor shaft so set screws are lined-up with bell housing opening. NOTE: One set screw located at keyway and second at 90° from keyway.
- 14.\* Insert 3mm allen wrench into each set screw and torque to **125-150 in-lbs (15-19 Nm)**.

\* Note: Flexible Couplings that fit the 7CP and 7FR plunger pumps do not have set screws, but a cross clamp socket head screw (6 mm Allen). Torque to 25 ft-lbs (34 Nm).

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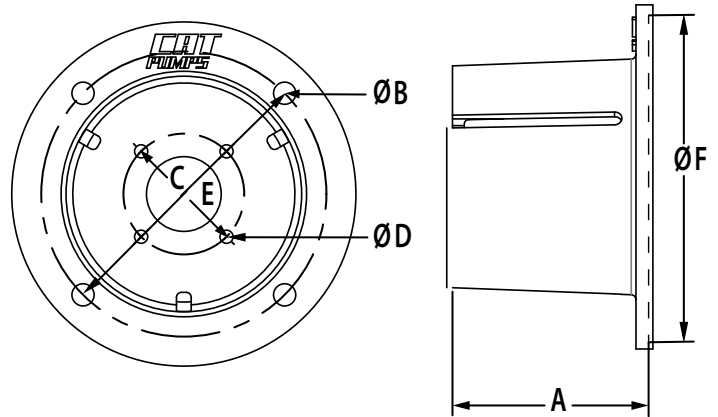
### Torque Specifications Chart

Screw	Size	Tool	in-lbs	ft-lbs	Nm
Bell Housing to Pump	M6	M4 Allen	50	4.2	5.4
Bell Housing to Pump	M8	M5 Allen	115	9.6	13
Bell Housing to Motor	3/8"	9/16" Hex Wrench	110	9.2	12
Bell Housing to Motor	1/2"	3/4" Hex Wrench	300	25	34
Flex Coupler (Set Screws)	M4	M3 Allen	125 – 150	10.4 – 12.5	15
Flex Coupler (7CP/7FR)	M8	M6 Allen	300	25	34

# DIMENSIONAL DRAWINGS

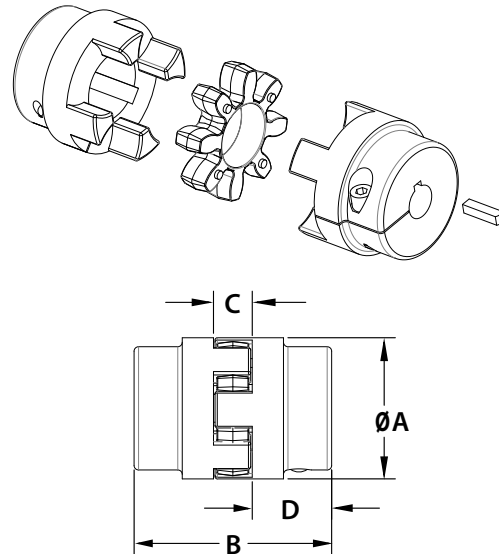
## Bell Housing Assemblies

MODEL	Ø D	E (BC)	QTY	Ø B	C (BC)	QTY	A	Ø F
76056.3CP	.252"	2.992"	4	.438"	5.875"	4	4.145"	4.500"
76056.3FR	.252"	2.520"	4	.438"	5.875"	4	4.145"	4.500"
76056.5CP	.335"	3.071"	4	.438"	5.875"	4	4.145"	4.500"
76056.5FR	.252"	2.953"	4	.438"	5.875"	4	4.145"	4.500"
76056.7CP	.252"	3.220"	8	.438"	5.875"	4	4.145"	4.500"
76184.3CP	.252"	2.992"	4	.565"	7.250"	4	5.000"	8.500"
76184.3FR	.252"	2.520"	4	.565"	7.250"	4	5.000"	8.500"
76184.5CP	.335"	3.071"	4	.565"	7.250"	4	5.000"	8.500"
76184.5FR	.252"	2.953"	4	.565"	7.250"	4	5.000"	8.500"
76184.7CP	.335"	3.858"	8	.565"	7.250"	4	5.000"	8.500"
76184.7FR	.252"	3.780"	8	.565"	7.250"	4	5.000"	8.500"
76215.3CP	.252"	2.992"	4	.565"	7.250"	4	5.925"	8.500"
76215.3FR	.252"	2.520"	4	.565"	7.250"	4	5.925"	8.500"
76215.5CP	.335"	3.071"	4	.565"	7.250"	4	5.925"	8.500"
76215.5FR	.252"	2.953"	4	.565"	7.250"	4	5.925"	8.500"
76215.7CP	.335"	3.858"	8	.565"	7.250"	4	5.925"	8.500"
76215.7FR	.252"	3.780"	8	.565"	7.250"	4	5.925"	8.500"
76256.5CP	.335"	3.071"	4	.565"	7.250"	4	6.925"	8.500"
76256.7CP	.335"	3.858"	8	.565"	7.250"	4	6.925"	8.500"



## Flexible Coupling Assemblies

MODEL	Ø A	B	C	D
8210	2.17"	3.04"	.68"	1.18"
8215	2.17"	3.04"	.68"	1.18"
8218	2.56"	3.53"	.77"	1.38"
8220	2.17"	3.04"	.68"	1.18"
8225	2.56"	3.53"	.77"	1.38"
8230	2.56"	3.53"	.77"	1.38"
8260	2.56"	3.53"	.77"	1.38"
8261	2.56"	3.53"	.77"	1.38"
8270	2.56"	3.53"	.77"	1.38"
8275	2.56"	3.53"	.77"	1.38"
8370	2.56"	3.53"	.77"	1.38"
8375	2.56"	3.53"	.77"	1.38"
8217	3.15"	4.41"	.86"	1.77"
8380	3.15"	4.41"	.86"	1.77"



### ⚠ 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](http://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](http://www.catpumps.com/warranty).