



## Technical specifications and instructions



### **28 Frame Block-Style Stainless Steel Plunger pump**

**Standard model     2831**

**Flushed model     2831K**

### Specifications (\*)

#### **Model 2831 – 2831K**

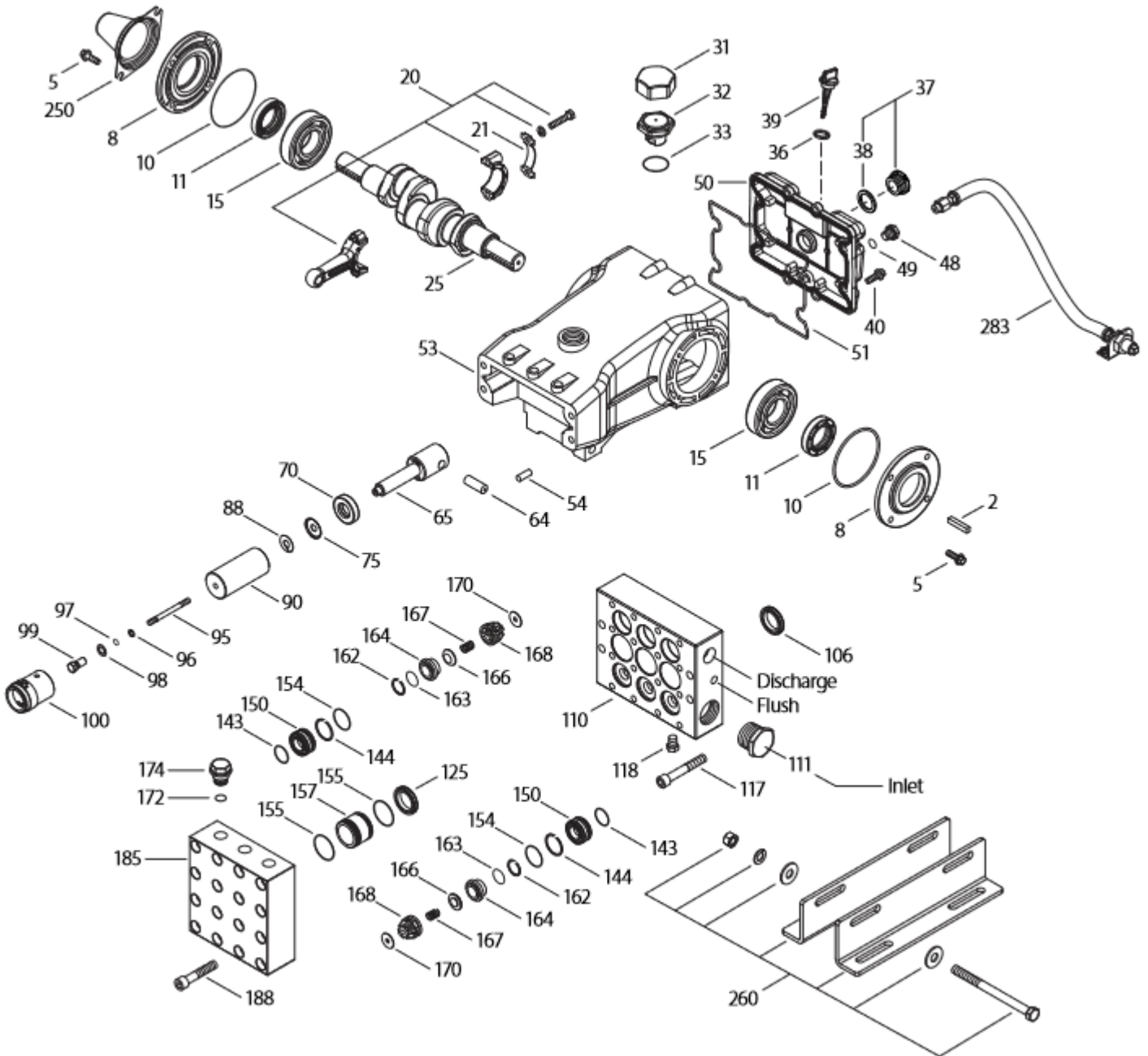
|                       |             |
|-----------------------|-------------|
| <b>Flow</b>           | 95 L/min    |
| <b>Pressure range</b> | 7 to 85 bar |
| <b>RPM</b>            | 1025 RPM    |

### Common specifications

|                                   |                    |
|-----------------------------------|--------------------|
| <b>Inlet pressure range</b>       | Flooded to 4,8 bar |
| <b>Bore</b>                       | 32 mm              |
| <b>Stroke</b>                     | 38,5 mm            |
| <b>Crankcase capacity</b>         | 2,5 L              |
| <b>Maximum liquid temperature</b> | 71° C              |
| <b>Inlet ports (2)</b>            | 1-1/4" NPTF        |
| <b>Flushing ports (2)</b>         | 1/4" NPTF          |
| <b>Discharge ports (2)</b>        | 3/4" NPTF          |
| <b>Shaft diameter</b>             | 30 mm              |
| <b>Weight</b>                     | 42,7 kg            |
| <b>Dimensions</b>                 | 493 x 382 x 204 mm |

(\*) Abnormalities permitted only after consultation and written confirmation from Cat Pumps.

# Exploded View



Models  
2831, 2831K  
January 2020

# Parts list

| Item | Num.<br>2831  | Mat.      | Num.<br>2831K | Mat.      | Description   | Qty |
|------|---------------|-----------|---------------|-----------|---|-----|
| 2    | 990036        | STL       | 990036        | STL       | Key (M8x7x40) {2/00}                                  | 1   |
| 5    | 125753        | S         | 125753        | S         | Screw, sems HHC (M8x25)                               | 8   |
| 8    | 49533         | ALE       | 49533         | ALE       | Cover, bearing (see TB 118)                           | 2   |
| 10   | 27772         | NBR       | 27772         | NBR       | O-ring, bearing cover – 70D                           | 2   |
| 11   | 27771         | NBR       | 27771         | NBR       | Seal, oil, crankshaft – 70D                           | 2   |
| 15   | 26512         | STL       | 26512         | STL       | Bearing, ball   | 2   |
| 20   | 48613         | TNM       | 48613         | TNM       | Rod, connecting                                       | 3   |
| 21   | 126562        | STCP R    | 126562        | STCP R    | Washer, locking                                       | 3   |
| 25   | 49795         | FCM       | 49795         | FCM       | Crankshaft, dual end {3/11}                           | 1   |
| 31   | 828710        | PE        | 828710        | PE        | Protector, oil cap                                    | 1   |
| 32   | 43211         | ABS       | 43211         | ABS       | Cap, oil filler                                       | 1   |
| 33   | 14177         | NBR       | 14177         | NBR       | O-ring, oil filler cap – 70D                          | 1   |
| 36   | 129343        | RBR       | 129343        | RBR       | Gasket, dipstick – 70D                                | 1   |
| 37   | 92241         | PC        | 92241         | PC        | Gauge, oil, bubble w/gasket – 80D                     | 1   |
| 38   | 44428         | NBR       | 44428         | NBR       | Gasket, flat, oil gauge – 80D                         | 1   |
| 39   | 27769         | ABS       | 27769         | ABS       | Dipstick  | 1   |
| 40   | 125753        | S         | 125753        | S         | Screw, sems HHC (M8x25)                               | 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   | 133582        | ALE       | 133582        | ALE       | Cover, rear (see TB 118,126)                          | 1   |
| 51   | 27767         | NBR       | 27767         | NBR       | O-ring, rear cover – 70D                              | 1   |
| 53   | 49528         | ALE       | 49528         | ALE       | Crankcase w/guidepins (see TB 118)                    | 1   |
| 54   | 27488         | S         | 27488         | S         | Pin, guide  | 2   |
| 64   | 27784         | CM        | 27784         | CM        | Pin, crosshead  | 3   |
| 65   | 48719         | SSHS      | 48719         | SSHS      | Rod, plunger  | 3   |
| 70   | 27785         | NBR       | 27785         | NBR       | Seal, crankcase, oil – 70D                            | 3   |
| 75   | 110669        | S         | 110669        | S         | Slinger, barrier                                      | 3   |
| 88   | 110670        | S         | 110670        | S         | Washer, keyhole                                       | 3   |
| 90   | 45749         | CC        | 45749         | CC        | Plunger (M32x93)                                      | 3   |
| 95   | 89835         | SS        | 89835         | SS        | Stud, retainer (M7x87)                                | 3   |
| 96   | 20184         | PTFE      | 20184         | PTFE      | Back-up-ring, plunger retainer                        | 3   |
| 97   | 14190         | NBR       | 14190         | NBR       | O-ring, plunger retainer – 70D                        | 3   |
|      | 14161         | FPM       | 14161         | FPM       | O-ring, plunger retainer – 70D                        | 3   |
|      | # 48239       | EPDM      | # 48239       | EPDM      | O-ring, plunger retainer                              | 3   |
| 98   | 44069         | SS        | 44069         | SS        | Gasket, plunger retainer                              | 3   |
| 99   | 44068         | SS        | 44068         | SS        | Retainer, plunger (M7)                                | 3   |
| 100  | 49788         | NY        | 49788         | NY        | Retainer, LPS front                                   | 3   |
|      | 49789         | NY        | 49789         | NY        | Retainer, LPS rear                                    | 3   |
| 106  | 44098         | NBR       | 44098         | NBR       | Seal, LPS w/SS-Spg                                    | 3   |
|      | 44827         | FPM       | 44827         | FPM       | Seal, LPS w/SS-Spg                                    | 3   |
|      | # 48244       | EPDM      | # 48244       | EPDM      | Seal, LPS w/SS-Spg                                    | 3   |
|      | 76298         | ST2       | 76298         | ST2       | Seal, LPS   | 3   |
| 110  | <b>701661</b> | <b>SS</b> | -             | -         | Manifold, inlet, block-style                          | 1   |
|      | -             | -         | <b>701719</b> | <b>SS</b> | Manifold, inlet, block-style, flushed 1/4" NPTF ports | 1   |
| 111  | 701104        | SS        | 701104        | SS        | Plug, inlet manifold (1-1/4" NPTM)                    | 1   |
| 117  | 701693        | S         | 701693        | S         | Screw HSH (M12x80)                                    | 4   |
| 118  | <b>701077</b> | <b>SS</b> |               |           | Plug (1/4" NPTM)                                      | 3   |
| 125  | 45832         | SNG       | 45832         | SNG       | Seal, HPS w/SS  | 3   |
|      | 48220         | HT        | 48220         | HT        | Seal, HPS w/SS, 2 pcs w/S-Support                     | 3   |
| 143  | 14200         | NBR       | 14200         | NBR       | O-ring, valve adapter, rear – 70D                     | 6   |
|      | 11719         | FPM       | 11719         | FPM       | O-ring, valve adapter, rear                           | 6   |
|      | # 701654      | EPDM      | # 701654      | EPDM      | O-ring, valve adapter, rear – 80D                     | 6   |
| 144  | 28243         | PTFE      | 28243         | PTFE      | Back-up-ring, valve adapter                           | 6   |
| 150  | 701675        | SS        | 701675        | SS        | Adapter, valve  | 6   |

|     |               |               |               |               |   |    |
|-----|---------------|---------------|---------------|---------------|---|----|
| 154 | 11379         | NBR           | 11379         | NBR           | O-ring, valve adapter, front – 70D  | 6  |
|     | 14183         | <i>FPM</i>    | 14183         | <i>FPM</i>    | <i>O-ring, valve adapter, front</i>   | 6  |
|     | #701491       | <i>EPDM</i>   | #701491       | <i>EPDM</i>   | <i>O-ring, valve adapter, front – 70D</i>   | 6  |
| 155 | 14520         | NBR           | 14520         | NBR           | O-ring, seal spacer – 70D   | 6  |
|     | 11745         | <i>FPM</i>    | 11745         | <i>FPM</i>    | <i>O-ring, seal spacer – 70D</i>  | 6  |
|     | #48240        | <i>EPDM</i>   | #48240        | <i>EPDM</i>   | <i>O-ring, seal spacer</i>  | 6  |
| 157 | 701692        | SS            | 701692        | SS            | Spacer, HPS   | 3  |
| 162 | 21985         | PTFE          | 21985         | PTFE          | Back-up-ring, seat  | 6  |
| 163 | 26089         | NBR           | 26089         | NBR           | O-ring, seat – 80D  | 6  |
|     | 11377         | <i>FPM</i>    | 11377         | <i>FPM</i>    | <i>O-ring, seat – 80D</i>   | 6  |
|     | # 46647       | <i>EPDM</i>   | # 46647       | <i>EPDM</i>   | <i>O-ring, seat – 80D</i>   | 6  |
| 164 | 44080         | SS            | 44080         | SS            | Seat  | 6  |
| 166 | 44081         | SS            | 44081         | SS            | Valve   | 6  |
| 167 | 44082         | SS            | 44082         | SS            | Spring  | 6  |
| 168 | 44735         | PVDF          | 44735         | PVDF          | Retainer, spring  | 6  |
| 170 | 44794         | SS            | 44794         | SS            | Washer, spring retainer   | 6  |
| 172 | 700008        | NBR           | 700008        | NBR           | O-ring, valve plug  | 3  |
|     | 700048        | <i>FPM</i>    | 700048        | <i>FPM</i>    | <i>O-ring, valve plug</i>   | 3  |
|     | # 701782      | <i>EPDM</i>   | # 701782      | <i>EPDM</i>   | <i>O-ring, valve plug</i>   | 3  |
| 174 | 701694        | SS            | 701694        | SS            | Plug, valve   | 3  |
| 185 | 701662        | SS            | 701662        | SS            | Manifold, valve, block-style  | 1  |
| 188 | 89628         | S             | 89628         | S             | Screw HSH (M12x65)  | 16 |
| 250 | 26516         | <i>STCP</i>   | 26516         | <i>STCP</i>   | <i>Protector, shaft</i>   | 1  |
| 260 | 30614         | <i>STZP R</i> | 30614         | <i>STZP R</i> | <i>Mount, rail, assy</i>  | 1  |
| 283 | 34334         | -             | 34334         | -             | <i>Kit, oil drain (3/8" x 24") (see individual data sheet)</i>                            | 1  |
| 299 | <b>901402</b> | <b>SS</b>     | -             | -             | <i>Head, complete, block-style, w/NBR seals &amp; O-rings</i>                             | 1  |
|     | -             | -             | <b>901403</b> | <b>SS</b>     | <i>Head, complete, block-style, flushed w/NBR seals &amp; O-rings</i>                     | 1  |
| 300 | 701731        | NBR           | 701731        | NBR           | <i>Kit, seal (incl. 96,97,106,125,143,144,154,155) <b>standard</b></i>                    | 1  |
|     | 701806        | <i>FPM</i>    | 701806        | <i>FPM</i>    | <i>Kit, seal (incl. 96,97,106,125,143,144,154,155)</i>                                    | 1  |
|     | # 33604       | <i>EPDM</i>   | # 33604       | <i>EPDM</i>   | <i>Kit, seal (incl. 96,97,106,125,143,144,154,155)</i>                                    | 1  |
| 310 | 701732        | NBR           | 701732        | NBR           | <i>Kit, valve (incl. 143,144,154,155,162,163,164,166,167,168,170,172) <b>standard</b></i> | 1  |
|     | 701807        | <i>FPM</i>    | 701807        | <i>FPM</i>    | <i>Kit, valve (incl. 143,144,154,155,162,163,164,166,167,168,170,172)</i>                 | 1  |
|     | # 701796      | <i>EPDM</i>   | # 701796      | <i>EPDM</i>   | <i>Kit, valve (incl. 143,144,154,155,162,163,164,166,167,168,170,172)</i>                 | 1  |
| 370 | -             | -             | <b>990663</b> | -             | <i>Assembly, flushing, 19L, 115V, 1.1 Amp, 1/2" NPT</i>                                   | 1  |

**Bold print part numbers are unique to a particular pump model. Italics are optional items.** # Silicone oil/grease required. { } Date of latest production change. For additional technical information see [www.catpumps.com/literature/tech-bulletins](http://www.catpumps.com/literature/tech-bulletins).

Material codes: (not part or part number)

|      |                               |      |                             |      |                       |
|------|-------------------------------|------|-----------------------------|------|-----------------------|
| ABS  | ABS plastic                   | NBR  | Medium nitrile (Buna-N)     | SNG  | Special blend Buna    |
| ALE  | Aluminum Epoxy                | NY   | Nylon                       | SS   | 316SS                 |
| CC   | Ceramic                       | PC   | Poly carbonate              | SSHS | 316SS / high strength |
| CM   | Chrome-moly                   | PE   | Polyethylene                | STCP | Steel / chrome plated |
| EPDM | Ethylene propylene diene mon. | PTFE | Pure polytetrafluorethylene | STL  | Steel                 |
| FCM  | Forged chrome-moly            | PVDF | Polyvinylidene fluoride     | ST2  | Special PTFE 2        |
| FPM  | Fluorocarbon                  | RBR  | Rubber                      | STZP | Steel / zinc plated   |
| HT   | High Temp                     | S    | 304SS                       | TNM  | Special high strength |