**416 LS Series Specifications**

**Purpose:**

The pumps transform the shaft rotation mechanical energy into the working fluid energy.

Hydraulic pump feed is proportional to the shaft rotation frequency and working displacement. Working displacement value is steplessly regulated from zero up to max value to each side. Fluid feed direction can be reversed by means of swash plate swivel change into the opposite side from the neutral position.

416 series pumps are intended for operation in stationary and mobile installations in set with hydrostatic transmissions (HST).

**Working displacement:**28, 71, 90, 110, 125 ccm/rev

**Technical characteristics:**

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| Size | 416.0.28 | 416.0.71 | 416.0.90 | 416.0.110 | 416.0.125 |
| Working displacement Vg, ccm/rev - min Vg min - max Vg max | 0 28 | 0 71 | 0 90 | 0 110 | 0 125 |
| Shaft rotation frequency n, rpm - nominal nnom - max nmax, at input pressure = 0.08 MPa - peak npeak, at input pressure= 0.2 MPa | 2000 4250 4500 | 2000 3050 3300 | 2000 3050 3300 | 2000 3000 3200 | 2000 3000 3200 |
| Feed Q, l/min - nominal Qnom - max Qmax - peak Qpeak | 53.20 113.05 119.70 | 134.90 205.72 222.59 | 171.00 260.78 282.15 | 156.75 313.50 334.40 | 178.37 356.25 380.00 |
| Boost pressure (difference) ∆P, MPa - nominal ∆Pnom - max working ∆Pmax - peak ∆Ppeak | 25 40 45 | | | | |
| Charge pressure Pn, МPa - at Vg=0, nnom - at Vg≠0, nnom | 2.7 2.3 | | | | |
| Charge pump input pressure (absolute) Ps, MPa - min working - min short-term (t<5 min) (atidling) | 0.08 0.05 | | | | |
| Drain pressure Pdr, МPa - max working - max short-term (t<5 min) | 0.25 0.5 | | | | |
| Consumed power N, kW - nominal Nnom (at nnom, Vg max, Pnom) - max Nmax (at nmax, Vg max, Pmax) - peak Npeak (at npeak, Vg max, Ppeak) | 25.08 84.71 100.77 | 63.5 154.1 187.3 | 80.2 194.8 236.9 | 73.6 234.4 281.0 | 83.6 266.1 318.9 |
| Driven torque T, Nm - nominal Тnom (at Vg max, Pnom) - max Tmax (at Vg max, Pmax) - peak Tpeak (at Vg max, Ppeak) | 126.61 200.88 225.64 | 320.68 509.01 571.79 | 404.68 643.41 722.99 | 495.30 787.09 884.35 | 561.62 893.19 1003.72 |
| Feed coefficient | 0.95 | 0.95 | 0.95 | 0.95 | 0.95 |
| Weight, kg | 29 | 67 | 67 | 80 | 80 |

**Design:**

- variable displacement axial piston swashplate hydraulic pumps

- mounting dimensions according to DIN / ISO / SAE standards

**Mounted in the pump end cap:**

- booster pump and purge relief valve

- two check-safety valves

**Types of control:**

- proportional servo-control

- electrical proportional (12, 24 V)

- open-loop electrical proportional (12, 24 V) without feedback

- electrical discrete (12, 24 V)

- hydraulic proportional

- open-loop hydraulic proportional without feedback

**Pumps coupling:**

- 8 mounting versions of additional pumps coupling with the base pump are available

**Options available on request:**

- filter in the booster pump pressure line, the filter is in set with the pump

- cut-off valve

- shaft rotation frequency sensor

**Analogues:**

A4VG, A4VTG (Bosch Rexroth)

42R(L), 90R(L), SPV22/23/24 (Sauer Danfoss)

PVH(S) (Hydrosila)