



General Characteristics of Hydraulic Equipment

Listing of characteristics:	In accordance with VDI 3267 ... 3284		
Terms and symbols:	In accordance with DIN ISO 1219		
Units:	SI units (Système International) as per international standard ISO 1000		
Dimensions without tolerances:	General tolerance data as per DIN ISO 2768-mH except cast parts, dimensional variation GTB 16 as per DIN 1686 forged pieces, forge quality F as per DIN 7526		
Mounting position:	Any, if not otherwise stated		
Environmental temperature:	t u min. = - 10°C t u max. = + 50°C		
Temperature of fluid:	t m min. = + 10°C t m max. = + 60°C		
Fluid:	Hydraulic oil as per DIN 51524		
Oil recommendation:	Oil temperature [°C] 10 – 40 15 – 50 20 – 60 Consult factory for other operating conditions.	Designation as per DIN 51524 HLP 22 HLP 32 HLP 46	Application Power units with poppet valves Mechanic pumps Power units with spool valves
Connection thread:	British standard pipe thread (Whitworth form) as per DIN 3852 sheet 2 (for cylindrical screwed plugs)		
Fittings:	As per DIN 2353; screwed plugs type B as per DIN 3852 sheet 2 (sealing by knife edge). Do not use additional sealing materials, e.g. teflon ribbon.		
Hydraulic cylinder, Hydraulic block cylinder:	Data sheet B 1.2811, B 1.282, B 1.590		
Dimensions:	Cylinders without stroke end cushioning: Flange mounting dimensions as per CETOP-recommendation R 58 H Cylinders with stroke end cushioning: As per CETOP-recommendation R 58 H with the exception of the smaller overall length.		
Admissible piston velocity:	V max. = 0.50 m/s		
Stroke:	As per DIN 323 R 10, standardized stroke lengths.		
Leakage rate:	Up to piston rod diameter of 32 mm ≤ 0.35 cm³ for 1000 cycles and 100 mm stroke (HLP 46). Piston rod diameter of 40 mm and larger ≤ 0.7 cm³ for 1000 cycles and 100 stroke (HLP 46).		
Workholding cylinder:	Data sheets B 1.310 through B 1.7441		
Admissible piston velocity:	V min. = 0.01 m/s V max. = 0.25 m/s		
Stroke:	Relatively short stroke, to suit requirements for workholding applications		
Cylinder side loading:	The admissible lateral piston force depends on the operating conditions. 3% of the nominal cylinder force must not be exceeded under any circumstances (up to 50 mm stroke). Please contact us for use of single-acting elements		
Leakage rate:	Dynamic: Up to seal diameter of 32 mm ≤ 0.3 cm³ for 1000 cycles and 10 mm stroke (HLP 22). Seal diameter of 40 mm and larger ≤ 0.6 cm³ for 1000 cycles and 10 mm stroke (HLP 22). Static: No leakage rate		
Automatic clamps, swing clamps, work supports, hydraulic valves and power units	General characteristics - see corresponding data sheet		