



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]	Designation as per DIN 51524	Application
	10 – 40	HLP 22	Power units with poppet valves
	15 – 50	HLP 32	Mechanic pumps
	20 – 60	HLP 46	Power units with spool valves
	Consult factory for other operating conditions.		
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 1.282, 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 cm ³ for 1000 cycles and 100 mm stroke (HLP 46). Piston rod diameter of 40 mm and larger ≤ 0.7 cm ³ 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 cm ³ for 1000 cycles and 10 mm stroke (HLP 22). Seal diameter of 40 mm and larger ≤ 0.6 cm ³ 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		

