

HYVA HYDRAULIC OIL

WHICH OIL TO USE?

Use the correct hydraulic oil viscosity.

Hydraulic oil becomes less fluid at low temperatures and more fluid at high temperatures. For hydraulic components it should be between defined limits in every working condition.

Viscosity: fluidity and is measured in mm²/s or in cSt (centi Stokes) also given as an ISO VG number.

Standard viscosity values are 10-15-22-32-46-68, which defines the midrange viscosity in cSt at 40°C. The higher the viscosity number, the thicker the oil is. E.g. 15 is thin and 68 is thick.

The minimum starting viscosity of most hydraulic pumps is 750 cSt.

At minimum ambient temperature at start-up this value may never be exceeded.

Higher viscosity can cause severe damage to your pump and can result in cylinder leakage.

The maximum viscosity at high temperature is 12 cSt. Exceeding this value will result in bad lubrication and loss of energy/efficiency.

Viscosity index: a lubrication oil quality indicator, a measure for the change of viscosity with temperature.

Standard viscosity index is 80-100; better quality oil do have an index of 120-180.

The higher the viscosity index number, the longer the oil stays liquid at low temperature and does not become too thick at low temperatures or too thin at higher temperatures. The viscosity index is especially important in very cold climates, where machines start at extreme low ambient temperature, but during operation oil is heating up substantially.

Minimum ambient temperature at start-up	Use oil ISO VG (low viscosity index)	Use oil ISO VG (high viscosity index)
-20°C	15	22
-10°C	22	32-46
0°C	22 - 32	32-46
+10°C	22 - 32	32-46
+20°C	32 - 46	46-68
+30°C	46 - 68	68
+40°C	68	68

See graph overleaf on next page.

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