

## Data sheet

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HMO

# Hydraulic (mineral) oils for BHH/BHMF actuators

	Product:	ISO norm:	Type/new indication:
List of recommended brands and types for use under non-extreme conditions:	BP	15	Energol HLP 15 (Bartran HV)
		22	Energol HLP 22 (Bartran HV)
		32	Energol HLP 32 (Bartran HV)
		46	Energol HLP 46 (Bartran HV)
	CASTROL	15	Hyspin AWS 15
		22	Hyspin AWS 22
		32	Hyspin AWS 32
		46	Hyspin AWS 46
		15	Hyspin AWH-M 15
		32	Hyspin AWH-M 32
	CHEVRON	15	Mechanism LPS 15
		32	Mechanism LPS 32
		46	Mechanism LPS 46
	ELF	15	Visga 15
22		Visga 22	
32		Visga 32	
46		Visga 46	
ESSO/EXXON	15	Nuto H 15	
	32	Nuto H 32	
	15	Univis N 15	
	32	Univis N 32	
	46	Inivis N 46	
	26	Univis J 26	
MOBIL	15	DTE 11 M	
	32	DTE 13 M	
	32	DTE 24	
Q8-KUWAIT PETROLEUM	15	Haydn 15	
	22	Haydn 22	
	32	Haydn 32	
	46	Haydn 46	
SHELL	15	Tellus T 15	
	37	Tellus T 32	
	46	Tellus T 46	
	22	Tellus S 22	
	32	Tellus S 32	
	46	Tellus S 46	
STATOIL	22	Hydraway 22	
	46	Hydraway 46	
SUN OIL	15	Sunvis 815-WR	
	22	Sunvis 822-WR	
	32	Sunvis 832-WR	
	46	Sunvis 846-WR	
TEXACO	15	Rando HD 15	
	22	Rando HD 22	
	32	Rando HD 32	
	46	Rando HD 46	

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### **Choice of hydraulic oil:**

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Hydraulic oil provides the hydraulic working processes with energy. In Bettis connection this means energy for valve motions.

The viscosity of the different kinds of oil varies according to the temperature; i.e. high temperature renders a low viscosity and vice versa. Some hydraulic oil types vary more than others. The oil viscosity is an indication of "how sluggish" the oil is. If you change the viscosity, you also change the lubricating characteristics of the oil, especially the adhesion that normally results in the well-known dilemma: to choose suitable hydraulic oil, which means oil with suitable viscosity and temperature conditions.

In order to decrease operating times and to reduce the power loss in pipes, elbows and various components (solenoid valves etc.), which the oil is to pass on its way to the actuator, the lowest possible viscosity is preferred, whereas the "highest possible" viscosity is preferable in order to protect pumps, solenoid valves and other movable mechanisms.

There are naturally technically and scientifically other conditions than the viscosity (e.g. the vapour pressure) which determine the lubricating characteristics of the oil and minimize the risk of pump cavitation, but based on experience a viscosity within the range

**15 cSt. (min.) and 200 cSt.**

can comply with the above-mentioned conditions.

The choice of oil is not only a choice of viscosity, but also an evaluation of how cold and warm the oil can get during normal operation under different ambient temperatures (arctical versus tropical conditions).

**The choice of oil type is customer's responsibility as the oil is dependent on various conditions, such as pressure, temperature, etc.**