

## RENOLIN ZAF B RANGE

Zinc and ash free hydraulic fluids, demulsifying with excellent wear protection

### Description

In the past few years, zinc-free hydraulic oils have become more and more important.

In many cases, the use of zinc-free hydraulic oils is required for use in machine tools where a contamination of the hydraulic oil with the metalworking fluid is possible.

The oils of the RENOLIN ZAF B RANGE are zinc and ash free hydraulic oils HLP according to DIN 51524, Part 2 with very good wear protection and load carrying capacity.

### Application

The oils of the RENOLIN ZAF B RANGE are high quality products that can be used both as hydraulic oils and also as lubricating oils for various applications, e.g. in bearings and recirculation systems. RENOLIN ZAF B RANGE grades are recommended for use in hydraulic systems in machine tools where a contamination with the metalworking emulsion may occur.

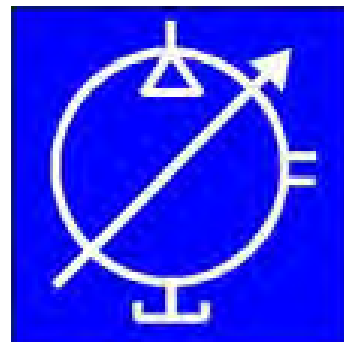
### Advantages/Benefits

- High oxidation stability
- Good ageing resistance
- Very good wear protection and load carrying capacity
- Excellent corrosion protection
- Good air release properties
- Low foaming tendency
- Excellent elastomer compatibility

### Specifications

The RENOLIN ZAF B RANGE meet, and in many cases exceed the requirements:

- DIN 51524-2: HLP
- ISO 6743-4: HM



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## CHARACTERISTICS: RENOLIN ZAF B RANGE

RENOLIN ZAF .....		10 B	22 B	32 B	46 B	
Characteristics	Unit					Test Method
ISO VG		10	22	32	46	
Kinematic viscosity						DIN EN ISO 3104
at 40°C	mm <sup>2</sup> /s	10	22	32	46	
at 100°C	mm <sup>2</sup> /s	2.6	4.3	5.4	6.8	
Viscosity index		94	100	102	101	DIN ISO 2909
Density at 15°C	kg/m <sup>3</sup>	851	865	872	875	DIN 51757
Colour index	ASTM	0.5	1.0	1.0	1.0	DIN ISO 2049
Flash point, Cleveland (COC)	°C	170	212	215	234	DIN ISO 2592
Pour point	°C	-30	-30	-30	-27	DIN ISO 3016
Neutralisation number	mg KOH/g	0.3	0.3	0.3	0.3	DIN 51558
Air release properties at 50°C	min.	1	2	3	8	DIN ISO 9120
FZG A/8.3/90	failure load stage	-	-	-	>12	DIN ISO 14635-1

## CHARACTERISTICS: RENOLIN ZAF B RANGE

RENOLIN ZAF .....		68 B	100 B	150 B	
Characteristics	Unit				Test Method
ISO VG		68	100	150	
Kinematic viscosity					DIN EN ISO 3104
at 40°C	mm <sup>2</sup> /s	68	100	150.0	
at 100°C	mm <sup>2</sup> /s	8.7	11.3	14.7	
Viscosity index		102	99	97	DIN ISO 2909
Density at 15°C	kg/m <sup>3</sup>	879	882	890	DIN 51757
Colour index	ASTM	1.0	1.0	>1	DIN ISO 2049
Flash point, Cleveland (COC) °C		230	240	>206	DIN ISO 2592
Pour point °C		-21	-18	-20	DIN ISO 3016
Neutralisation number	mg KOH/g	0.3	0.3	-	DIN 51558
Air release properties at 50°C	min.	8	9	-	DIN ISO 9120
FZG A/8.3/90	failure load stage	>12	>12	-	DIN ISO 14635-1

**WARNING: Never mix zinc-free hydraulic fluids with those containing zinc-based additives.**