

Rating of hydraulic fluids

Bosch Rexroth Fluid Rating



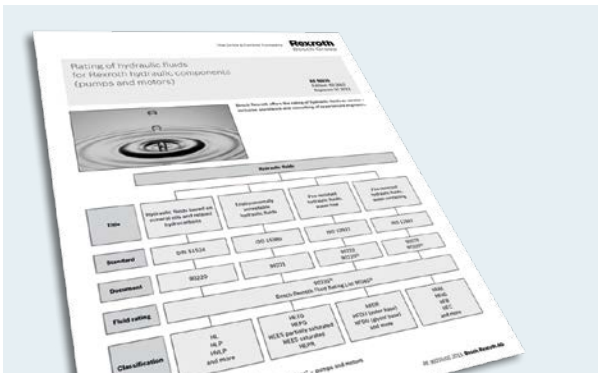
General

The safe and reliable operation of industrial and mobile equipment can only be ensured by choosing the hydraulic fluid that is geared up for its individual case of application. However, the joining element “hydraulic fluid” is often not considered enough during conceptual design. Increased requirements on the machines and equipment (such as pressure, temperature, oil-circulation index), constantly raise the demands in quality of the hydraulic fluids being used. The currently existing standards of requirement for hydraulic fluids do often not meet the today’s demands of high-performance hydraulics.

In order to apply the appropriate hydraulic fluid, it requires a great amount of knowledge and competency. Therefore, Bosch Rexroth offers the rating of hydraulic fluids for Rexroth hydraulic components as a service. The aim is to reduce the risk of fluid related damage when operating Rexroth hydraulic pumps and motors as well as to increase the operating safety for the manufacturers and users of the machines.

General

The Rexroth data sheet 90235 describes the fluid rating technique for mineral oils and related hydro carbons as well as environment-friendly and fire-resistant hydraulic fluids.



Registration for “Fluid Rating” on website of Bosch Rexroth (www.boschrexroth.com/fluidrating)



You can find the Rexroth data sheet 90235 in our media directory

www.boschrexroth.com/mediadirectory

General

Description

Results

Fluid categories

Other

Description

Minimum requirements

- ▶ DIN 51524 part 2/3
- ▶ ISO 15380
- ▶ ISO 12922

Bosch Rexroth Fluid Rating

- ▶ Review of manufacturer's data
 - ISO 11158
 - ISO 15380
 - ISO 12922
- ▶ Bosch Rexroth requirements

Risk in combination with
Rexroth hydraulic components

Reliability
fluid rating

Residual risk

Minimum requirements

The specifications within the technical data sheets of the fluid producers regarding the compliance of the respective norm currently match our data given in the data sheets for components. However, the plausibility and correctness of the fluid data is not reviewed by Bosch Rexroth.

Description

General

Bosch Rexroth Fluid Rating

defines the demand and inspection of fluid parameters, confirmed in writing by the fluid producers, in terms of plausibility and correctness (respectively ISO conformity). In addition, Rexroth applies own extended requirements. They concern, among other things, specific fluid tests which show the suitability of a hydraulic fluid with defined Rexroth components and its relation to the corresponding specification.

Description

Depending on the used Rexroth hydraulic components and fluid category, the corresponding fluid test has to be passed prior to the assignment of the Bosch Rexroth fluid rating. Furthermore, retain samples (such as finished oil and base oil) are being stored. The Rexroth document 90245 will list those relevant hydraulic fluids that have passed the requirements of the Bosch Rexroth fluid rating.

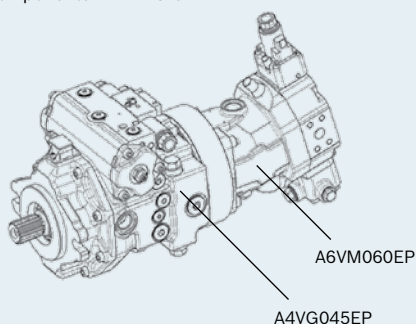
Results

Fluid categories

Other

Rexroth fluid test RFT-APU-CL

Test components RFT-APU-CL



Fluid test for closed-loop circuits using a combination unit consisting of a hydraulic pump A4VG045EP and a hydraulic motor A6VM060EP. This fluid test demonstrates the requirements on a hydrostatic travel drive.

Operating data

1. Break-in test: 10 hours,
p = 250 bar, n = 2.000 U/min, T = 60°C
2. Swivel cycle test: 300 hours,
p = 450 bar, n = 4.000 U/min, T = 100°C
3. Corner power test: 200 hours,
p = 500 bar, n = 4.000 U/min, T = 100°C

Results

RFT-APU-CL

Results pump test RFT-APU-CL
(**R**exroth **F**luid **T**est – **A**xial **P**iston **U**nit –
Closed **L**oop)



Operating time

145 h



Operating time

510 h



A6VM060EP

General

Description

Results

Fluid categories

Other

General

Results

RFT-APU-CL

Description



Operating time

97 h



Results



Operating time

510 h



Fluid categories



A4VG045EP

Other

Fluid categories

Application notes and requirements
for Rexroth hydraulic components

Hydraulic fluids on basis of mineral oils and related hydrocarbons

e.g. HL, HLP, HVLP

► Rexroth data sheet 90220

Environment-friendly hydraulic fluids

e.g. HETG, HEPG, HEES, HEPR

► Rexroth data sheet 90221

Fire-resistant hydraulic fluids – water-free

e.g. HFDR, HFDU

► Rexroth data sheet 90222

Fire-resistant hydraulic fluids – water-containing

e.g. HFA, HFB, HFC

► Rexroth data sheet 90223



You find the Rexroth data
sheets in our media directory

[www.boschrexroth.com/
mediadirectory](http://www.boschrexroth.com/mediadirectory)

General

Description

Results

Fluid categories

Other

Other

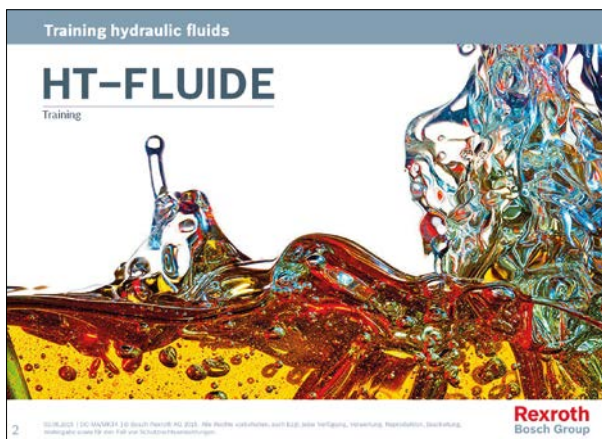
Training

Bosch Rexroth offers a training on hydraulic fluids.



www.boschrexroth.com/training

Training hydraulic fluids
HT-FLUIDE



Other

General

Information material

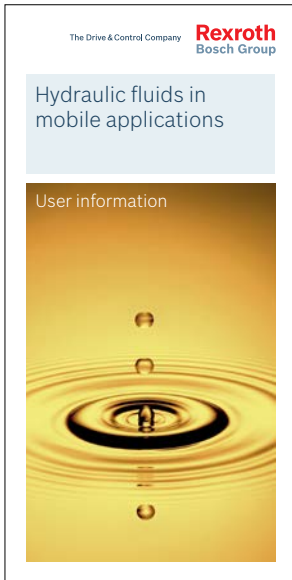
The flyer **“Hydraulic fluids in mobile applications”** is available in our media directory.

Description



[www.boschrexroth.com/
mediadirectory](http://www.boschrexroth.com/mediadirectory)

Results



Fluid categories

Other

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Subject to change.