SAUER DANFOSS

OMS
Technical Information
OMSS

Installing the OMSS

The cardan shaft of the OMSS motor acts as an "output shaft". Because of the movement of the shaft, no seal can be fitted at the shaft output.
Internal oil leakage from the motor will therefore flow into the attached component.

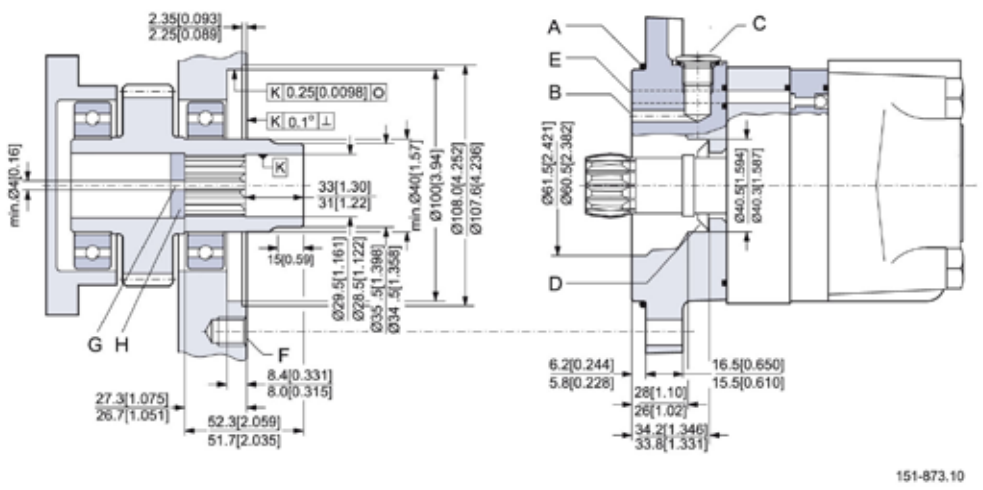
During start and operation it is important that the spline connection and the bearings in the attached component receive oil and are adequately lubricated. To ensure that the spline connection receives sufficient oil, a conical sealing ring between the shaft of the attached component and the motor intermediate plate is recommended. This method is used in the OMS.

The conical sealing ring (code. no. 633B9023) is supplied with the motor.

To ensure that oil runs to the bearings and other parts of the attached component, the stop plate must have a hole in it (see fig. below).

We recommend an O-ring between motor and attached component. The O-ring (code no. 151F1033) is supplied with the motor. If motor and attached component have been separated, remember to refill before starting up. Fill the oil through the drain connection.

OMSS Dimensions of the Attached Component



A: O-ring: 100 × 3 mm
B: External drain channel
C: Drain connection G ¼; 12 mm [0.47 in] deep
D: Conical seal ring
E: Internal drain channel
F: M10; min. 15 mm [0.59 in] deep
G: Oil circulation hole
H: Hardened stop plate

SAUER DANFOSS

OMS
Technical Information
OMSS

Internal Spline Data for the Component to be Attached

The attached component must have internal splines corresponding to the external splines on the motor cardan shaft (see drawing below).

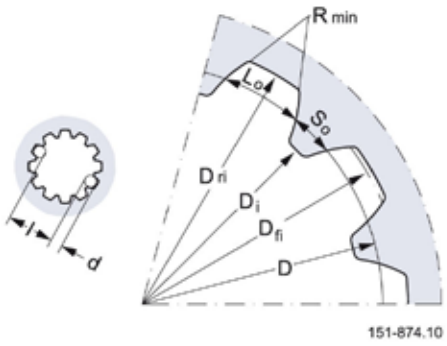
Material:
Case hardening steel with a tensile strength corresponding at least to 20 MoCr4 (900 N/mm²) or SAE 8620.

Hardening specification:
- On the surface: HV = 750 ± 50
- 0.7 ± 0.2 mm under the surface: HV = 560

Internal involute spline data
Standard ANS B92.1-1970, class 5 (corrected m · X = 0.8; m = 2.1166)

Flat root side fit		mm	in
Number of teeth	z	12	12
Pitch	DP	12/24	12/24
Pressure angle		30°	30°
Pitch dia.	D	25.4	1.0
Major dia.	D_{ri}	$28.0\ ^{0}_{-0.1}$	$1.10\ ^{0}_{-0.004}$
Form dia. (min.)	D_{fi}	27.6	1.09
Minor dia.	D_i	$23.0\ ^{+0.033}_{0}$	$0.9055\ ^{+0.0013}_{0}$
Space width (circular)	L_o	$4.308\ ^{\pm 0.020}$	$0.1696\ ^{\pm 0.0008}$
Tooth thickness (circular)	S_o	2.341	0.09217
Fillet radius	R_{min}	0.2	0.008
Max. mea surement between pins*	l	$17.62\ ^{+0.15}_{0}$	$0.700\ ^{0}_{-0.006}$
Pin dia.	d	$4.835\ ^{\pm 0.001}$	$0.1903\ ^{\pm 0.00004}$

* Finished dimensions (when hardened)



Drain Connection on OMSS or Attached Component

A drain line ought to be used when pressure in the return line can exceed the permissible pressure on the shaft seal of the attached component.

The drain line can be connected at two different points:
1) at the motor drain connection
2) at the drain connection of the attached component.

If a drain line is fitted to the attached component, it must be possible for oil to flow freely between motor and attached component.

The drain line must be led to the tank in such a way that there is no risk of the motor and attached component being drained of oil when at rest.
The maximum pressure in the drain line is limited by the attached component and its shaft seal.