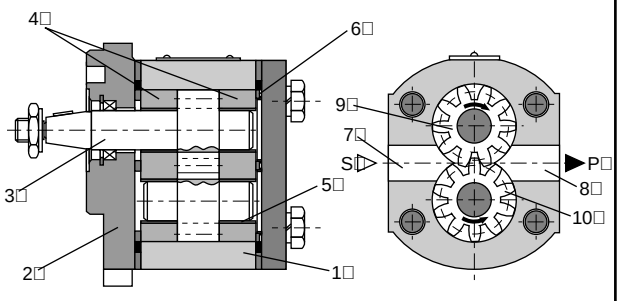
Data Sheet

Gear pumps

A range of self aspirating external gear pumps with nominal displacements between 4cm³/rev and 22.4cm³/rev, for maximum working pressures up to 250 bar.

Plain bearings cater for high load applications.

Figure 1



7 Suction side□ □ 8 Pressure side□
9 Driving gear (clockwise)□ 10 Driven gear□
□

Functional description (Figure 1)

Hydraulic pumps type G2 are self aspirating external gear pumps. They are used to generate a flow of fluid and to impart the necessary forces to this fluid flow.

They basically consist of the housing (1), mounting flange (2), drive shaft (3), 2 bearing blocks (4), bearing bushes (5) and the plates for the hydrostatic compensation of end clearance (6).

As the gears rotate and the teeth come clear of the meshing point, a vacuum is created, thus allowing atmospheric pressure acting on the fluid surface within the tank to cause the fluid to flow into the spaces between the teeth.

It is then carried within these spaces in the direction of the arrows.

(See section, from the suction to the pressure side.)

As the teeth mesh once more, the fluid is forced out of the spaces between the teeth into the output of the pump as the meshing of the teeth prevents it returning to the suction side.

In order to prevent harsh running of the pump, small grooves are cut into the side plates (4) to allow the fluid trapped in the meshing of the gears to be ejected into the pressure side.

Technical specification

Fluid: _____ Mineral oil to RE 07 075

Fluid temperature range _____ –15° to +80°C

Ambient temperature range _____ –15° to +60°C

Viscosity range: 10 to 300mm²/s (recommended range)
1000mm²/s (permissible at start)

Maximum permissible degree of contamination of fluid to NAS 1638 Class 10. To achieve this, we recommend a filter with a retention rate of at least $\beta_{20} \geq 100$. In order to achieve a longer service life, we recommend class 9, NAS 1638. This is achievable with a filter with a retention rate of $\beta_{10} \geq 100$.

Drive: _____ Via a flexible coupling

Installation position: _____ Optional

Direction of rotation: _____ The pump may only be driven in the given direction of rotation – clockwise

Permissible torques at shaft end: _____ Tapered shaft 1:5 ∅ 17mm $T_{max.}$ =150Nm

For filters, see Filters and Replacement elements in the Hydraulics Section, Part 3 of the **RS** Catalogue.

Size		004	005	008	011	022
Displacement	cm³	4	5.5	8.2	11	22.4
Operating pressure, inlet: absolute press.	bar	P_{abs} min. 0.7 P_{abs} max. 3.0				
Max. continuous pressure $p1$	bar	250	250	250	250	210
Max. speed at continuous pressure $p1$	bar	5000	4000	4000	4000	2500
Min. speed at p = 180 bar	rpm	1000	1000	700	500	500
Min. speed at $p1$	rpm	1200	1200	1000	700	700

Size	Manufacturer's part no.	**RS** stock no.
004	IPF2G2-4X/004 RC20MB	728-742
005	IPF2G2-4X/005 RC20MB	728-758
008	IPF2G2-4X/008 RC20MB	728-764
011	IPF2G2-4X/011 RC20MB	728-770
022	IPF2G2-4X/022 RC20MB	728-786

Operating curves

(Measured at $v = 41 mm^2/s$ and $t = 50°C$)

Figure 2 **Flow/Speed curves**

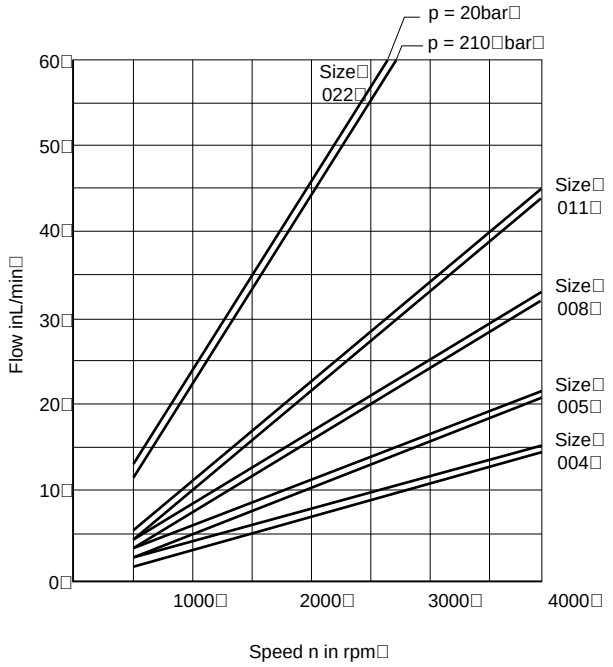


Figure 3

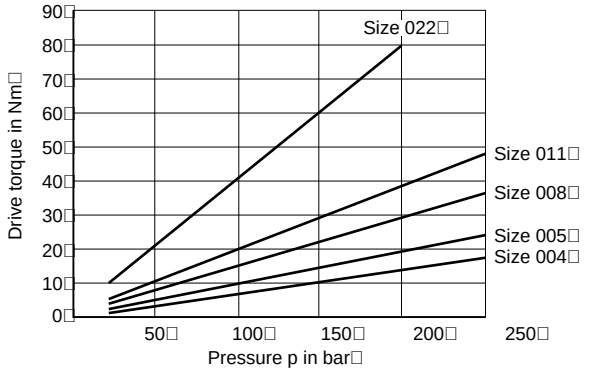
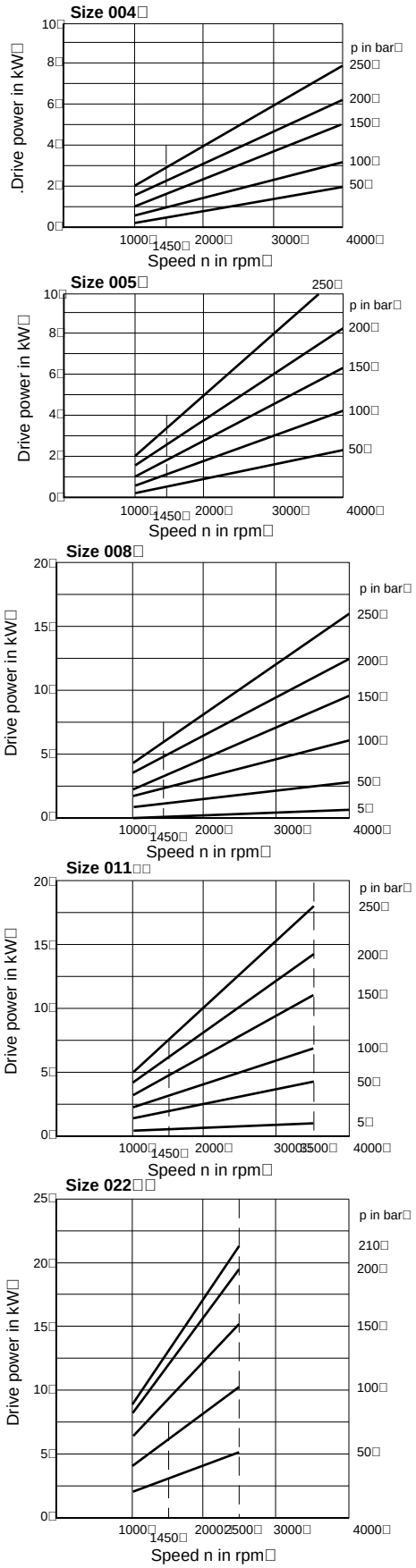


Figure 4



Noise level

(Measured at n = 1450 rpm, v =41 mm²/s and t =50°C)

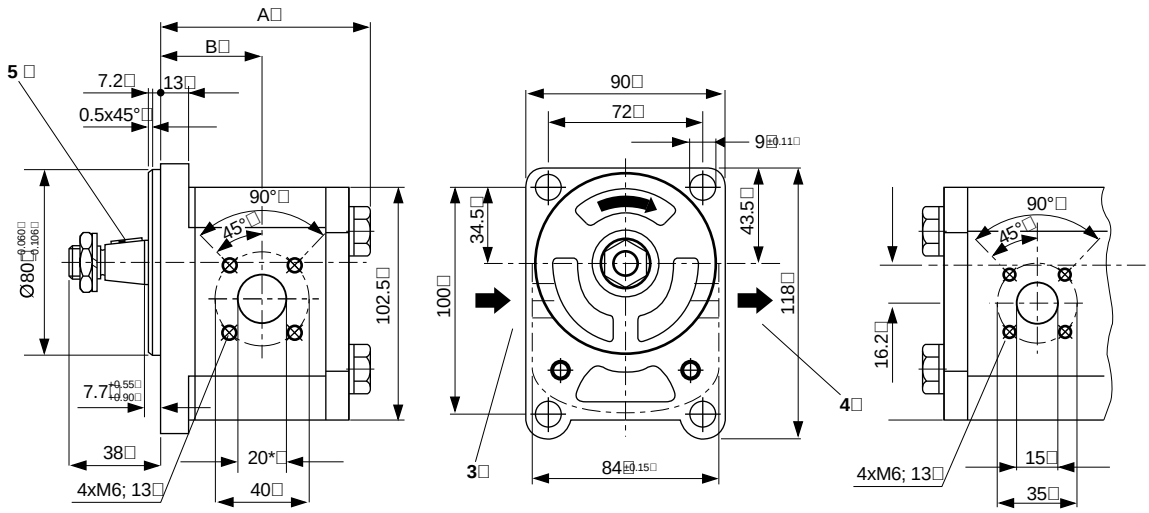
Measured in an anechoic chamber to DIN 45 635 part 26 in dB(A)

Distance from pump to microphone = 1m

Size / p in bar	004	005	008	011	022
5	57	59	59	59	62
50	58.5	60	60	60	66
100	59	61	61	62	67
150	60	62	62	64.5	68.5
200	61	63	63.5	66	69
250	61.5	64.5	65	68	–

Unit dimensions

Figure 5

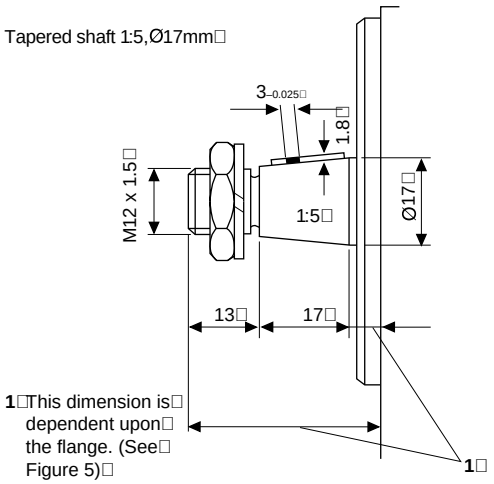


3 Suction side
4 Pressure side
5 Taper 1:5 Ø 17mm
*15 dia in sizes 004 and 005

Size	Dimensions A	Dimensions B	Weight in kg
004	87	40.5	2.4
005	87	40.5	2.5
008	91	43.25	2.6
011	97.5	47.5	2.7
022	115	55.5	3.3

Shaft end details

Figure 6



1 This dimension is dependent upon the flange. (See Figure 5)

RS Components, PO Box 99, Corby, Northants, NN17 9RS
Telephone: 01536 201234
An Electrocomponents Company