

WEAR GUIDE RING

WRFR



Features:

Guide ring WRFR is a pre-molded ring ready to the size.

Composition:

SEAL COMBINATION	WEAR RING COMPOUND	WORKING TEMP. RANGE (Min / Max)	SURFACE SPEED (Max.)
WRFR01	FR01	-30 to 110°C	1.5 m/s
WRFR02	FR02	-30 to 110°C	1.5 m/s
WRFR03	FR03	-30 to 110°C	1.5 m/s

For compound detail please refer Royal seal compounds (section - III)

Properties:

- High load bearing capacity.
- Low friction, free of stick slip
- High abrasion resistance.
- Low wear and high extrusion resistance.
- Resistance against cold flow .

Application:

- Mobile Hydraulics
- Injection moulding machines
- Machine tools
- Material Handling Equipments
- Standard cylinders

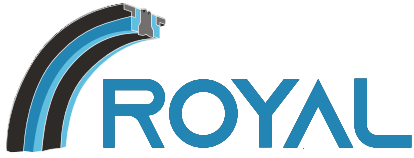
Guide tolerances:

Width L (mm)	Thickness T (mm)
- 0.1 to - 0.6	- 0.03 to - 0.06

Operating limit:

Ultimate compressive strength	max. > 300 N/mm ²
Pressure Under Dynamic Conditions	max. 100 N/mm ² at + 25 °C max. 50 N/mm ² at + 60 °C
	(permitted specific surface pressing*)

* The permissible load of the guide strip is calculated from the projected area multiplied by the permissible specific surface pressing. The non linear contact pressure distribution, produced by the load with relation to temperature and tolerances, is taken into account in the value of the permissible load.



Surface finish:

Roughness depth	R(max)	Ra
Sliding surface	≤ 2.5 µm	0.05-0.3 µm
Bottom of groove	≤ 6.3 µm	≤ 1.6 µm
Side of groove	≤ 15 µm	≤ 3µm

Gap dimension:

The radial clearance S min controls the minimum metal to metal clearance between the gland and rod or bore and piston. S max control the maximum extrusion gap seen by a seal associated with the guide ring.
 The radial clearance S and the given tolerances are guidelines. Use of the guide and tolerances are to be designed in accordance with the used seal. The radial clearance S given in the table of dimensions is to be seen exclusively as reference to the guide ring. The corresponding diameter of the seal housing is to be adjusted to the sealing component. The cut gap ' Z ' arising after fitting of guide ring is necessary to compensate the thermal expansion of polymer

Installation:

Careful fitting of the Guide ring is a prerequisite for it's perfect functioning.

Order format:

Example for ØDN=090 and cross section 05.60 X 2.50

Order code is **WRFR01-M-090.00 X 085.00 X 05.60** (Standard Blue Colour)

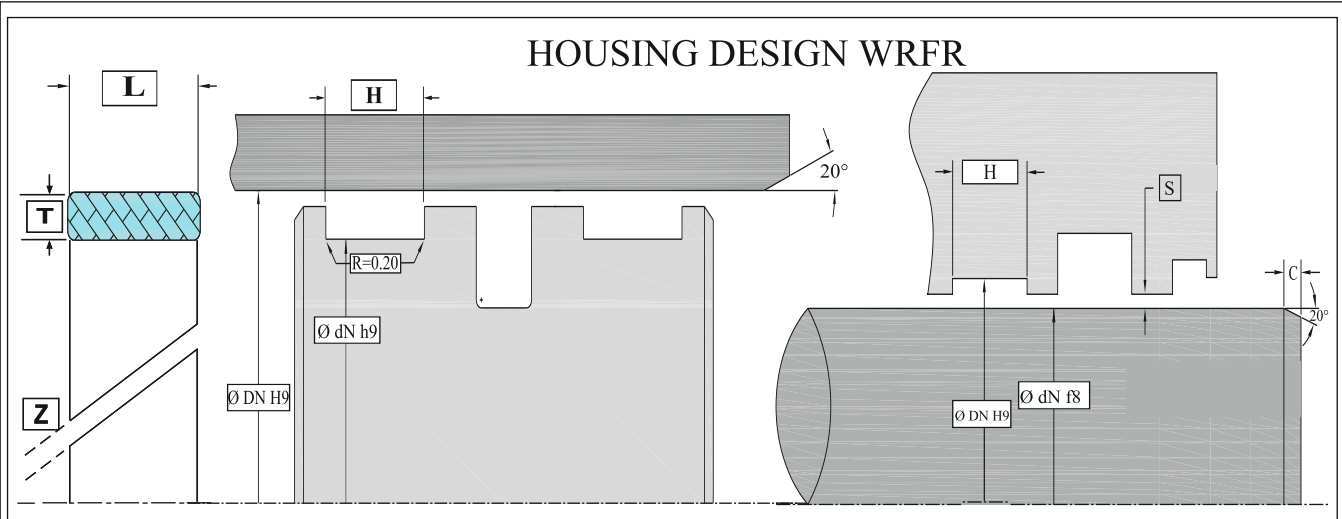
Order code is **WRFR02-M-090.00 X 085.00 X 05.60** (Brown Colour)

Order code is **WRFR03-M-090.00 X 085.00 X 05.60** (Grey Colour)

Important Note

The above stated limits for pressure and speed are maximum values. Friction heat generated by the combination of pressure and speed may cause local heat build-up. Care should be taken not to apply high values for pressure and speed at the same time.

Please contact ROYAL at info@royalcomposites.co.in / info@royalseals.co.in if your required size is not mentioned in Royal standard size list



ROYAL STANDARD SIZE LIST

CROSS SECTION (H X T)	RECOMMENDED UP TO DIA (MM) ØDN H9	GROOVE DIA(MM) ØdN h8	GROOVE WIDTH (MM) H (+0.20)	S(MAX.)	CUT GAP Z	ORDER CODE
05.60 X 2.50	20-140	ØDN-5.00	5.60	0.30	1.00-2.00	WRFR01-M-ØDN X ØdN X 5.60
06.00 X 2.00	20-60	ØDN-4.00	6.00	0.30	1.00-2.00	WRFR01-M-ØDN X ØdN X 6.00
06.00 X 2.50	25-140	ØDN-5.00	6.00	0.40	1.00-3.00	WRFR01-M-ØDN X ØdN X 6.00
06.00 X 4.00	70-200	ØDN-8.00	6.00	0.50	2.00-3.50	WRFR01-M-ØDN X ØdN X 6.00
06.00 X 4.50	100-200	ØDN-9.00	6.00	0.50	2.50-4.00	WRFR01-M-ØDN X ØdN X 6.00
08.00 X 2.00	25-80	ØDN-4.00	8.00	0.30	1.00-3.00	WRFR01-M-ØDN X ØdN X 8.00
08.00 X 2.50	30-160	ØDN-5.00	8.00	0.40	1.00-3.00	WRFR01-M-ØDN X ØdN X 8.00
08.00 X 4.00	100-300	ØDN-8.00	8.00	0.50	2.00-4.00	WRFR01-M-ØDN X ØdN X 8.00
09.50 X 4.00	120-300	ØDN-8.00	9.50	0.50	2.00-4.00	WRFR01-M-ØDN X ØdN X 9.50
09.70 X 2.50	40-160	ØDN-5.00	9.70	0.40	2.00-3.50	WRFR01-M-ØDN X ØdN X 9.70
10.00 X 2.00	40-100	ØDN-4.00	10.00	0.30	2.00-3.50	WRFR01-M-ØDN X ØdN X 10.00
12.50 X 2.50	50-180	ØDN-5.00	12.50	0.40	2.00-3.50	WRFR01-M-ØDN X ØdN X 12.50
15.00 X 2.50	60-200	ØDN-5.00	15.00	0.40	2.00-3.50	WRFR01-M-ØDN X ØdN X 15.00
15.00 X 4.00	160-300	ØDN-8.00	15.00	0.50	3.00-5.00	WRFR01-M-ØDN X ØdN X 15.00
20.00 X 2.00	50-180	ØDN-4.00	20.00	0.30	2.00-3.50	WRFR01-M-ØDN X ØdN X 20.00
20.00 X 2.50	80-300	ØDN-5.00	20.00	0.40	2.00-3.50	WRFR01-M-ØDN X ØdN X 20.00
20.00 X 3.20	100-300	ØDN-6.40	20.00	0.50	2.00-4.00	WRFR01-M-ØDN X ØdN X 20.00
25.00 X 2.50	100-300	ØDN-5.00	25.00	0.40	3.00-5.00	WRFR01-M-ØDN X ØdN X 25.00
30.00 X 2.00	100-225	ØDN-4.00	30.00	0.30	3.00-5.00	WRFR01-M-ØDN X ØdN X 30.00
30.00 X 2.50	100-300	ØDN-5.00	30.00	0.40	3.00-6.00	WRFR01-M-ØDN X ØdN X 30.00

Guide rings in pre-molded form can be provided up to Ø350 mm thickness (T) up to 10mm & height (L) up to 180mm