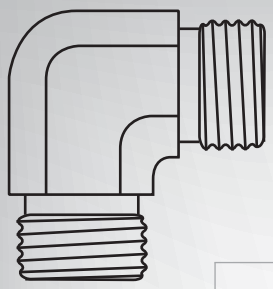

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ORFS Fitting Guide

ORFS Thread Identification & Torque

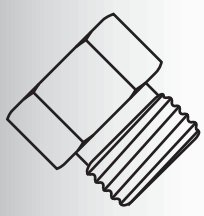
Fitting Size	Dash Size	Thread Size	Torque ft/lbs
ORFS 4	-04	9/16-20	10-12
ORFS 6	-06	11/16-16	18-20
ORFS 8	-08	13/16-16	32-35
ORFS 10	-10	1-14	45-50
ORFS 12	-12	1 3/16-12	65-70
ORFS 16	-16	1 7/16-12	92-100
ORFS 20	-20	1 7/8-12	125-140
ORFS 24	-24	2-12	150-165

TORQUE VALUES: The minimum torque values listed are to provide a benchmark that give optimum results for leak free connections. Actual torque values should be based on individual application.

ORFS (O-Ring Face Seal) fittings have a straight thread and a flat face with an O-ring groove machined in the flat face. Sealing takes place by compressing the O-ring onto the flat face of the female connector.

Fittings with O-rings offer advantages over metal-to-metal fittings. Under or overtighening any fitting can allow leakage, but all-metal fittings are more susceptible to leakage because they must be tightened to a higher and narrower torque range. This makes it easier to strip threads or crack or distort fitting components, which prevents proper sealing.

Leaks can result from vibration, thermal cycling and from loads being supported by the connection (i.e. using the fitting in the connection to support mechanical loads).



Recommended O-Ring Face Seal Fitting Assembly Instructions

STEP 1: Inspect for possible contamination or damage from shipping or handling. Confirm face seal o-ring is properly installed.

STEP 2: Lubricate the threads and the o-ring with your systems hydraulic fluid or a light lubricant.

STEP 3: Align mating face seal flange against o-ring and finger tighten face seal flange nut.

STEP 4: Torque flange nut to the value shown in the table on the left hand side of this page.

Wet Torque

Wet torquing is the practice of using your systems hydraulic fluid to lubricate the threads and o-ring of the fittings before installation.Due to differences in materials, plating types and thickness, and thread quality of different components, the coefficient of friction varies greatly on any given assembly. Lubrication not only produces a more consistent coefficient of friction, it increases clamping force on sealing area with less torque on threads. Over tightening causes threads to yield, deform, and therefore lose their ability to maintain an adequate load or clamping force on the seating area. Extended operation and severe conditions cause further yielding which results in leaks. To not wet torque is to compromise consistency and quality for convenience.

Alternate Assembly Method

STEP 1: If torque method not possible, follow steps 1-3 above, then proceed to the steps below.

STEP 2: Lightly wrench tighten the nut until there is firm resistance.

STEP 3: Place a wrench on wrench pad next to nut as near the 6 o'clock position as possible.

STEP 4: Place second wrench on nut as near the 3 o'clock position as possible.

STEP 5: Turn nut clockwise to no less than the 4 o'clock position, but no more than the 6 o'clock position. Required rotation generally decreases as size increases.

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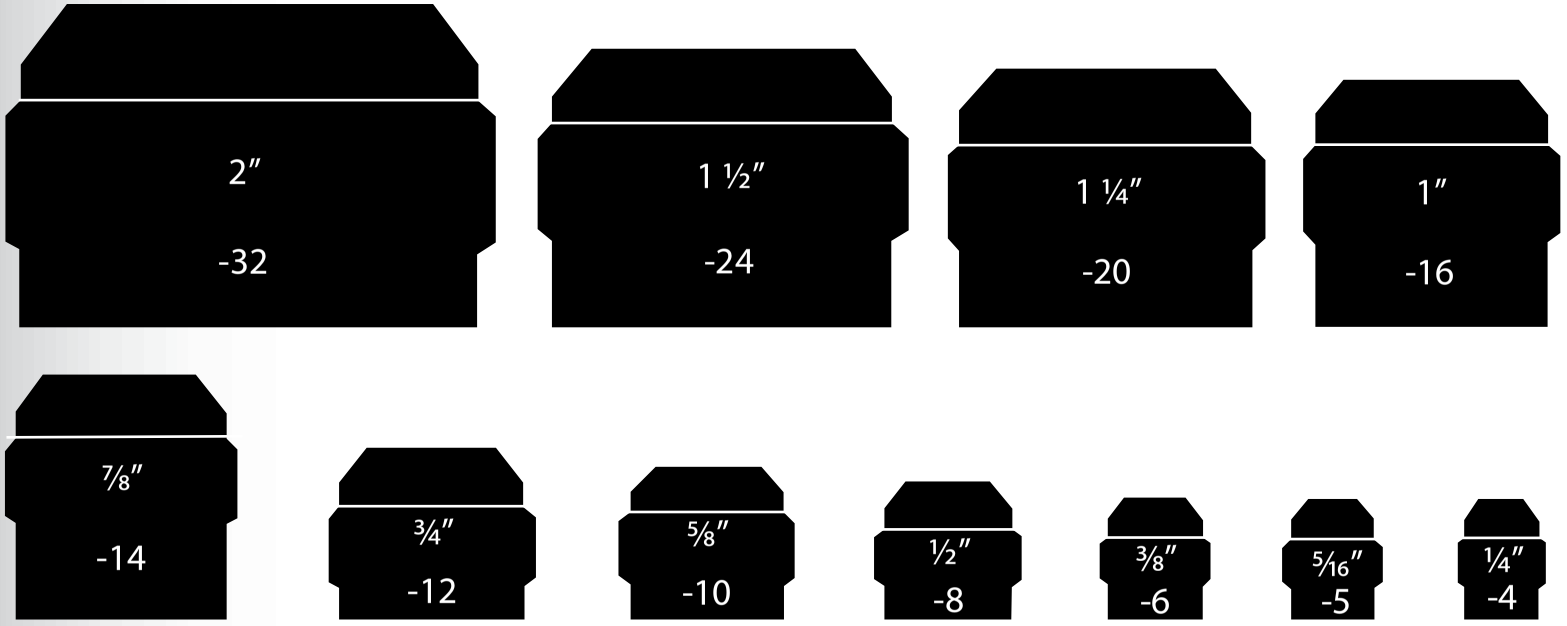
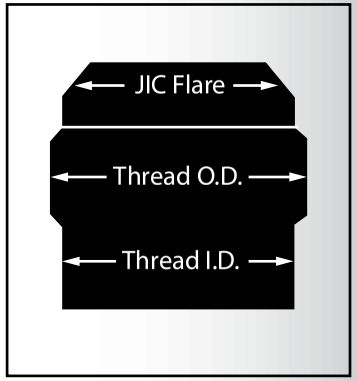
Thread Size Chart (Male)

For most accurate sizing results when printing, change the page scaling setting to 'None'.

NPT / BSPT / BSPP

JIC 37° / SAE O-Ring





ORFS (O-Ring Face Seal)

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