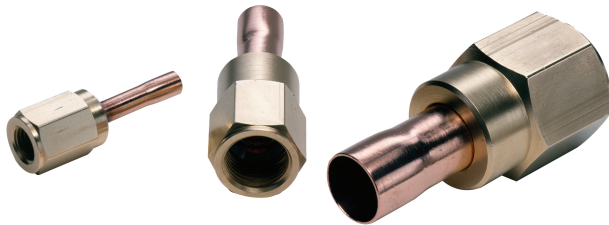**Data Sheet**

Adaptor
Type **FSA**

Easy and fast component replacement

With the flare / solder adaptor, type FSA, flare connections can be easily and reliably changed to solder connections.

The adaptor provides a method of joining that preserves the advantages of flare connections, i.e. easy and fast component replacement. At the same time, the flare / solder adaptor also provides the advantage of soldered joints, i.e. a high degree of tightness that prevents leakage. The adaptor contains no soft gaskets or O-rings which age and loose their sealing properties. Instead, it contains a copper seal which protects the flare collar against wear and fatigue. This copper seal ensures a thightness similar to that of soldered joints.

The copper seal must be changed each time the adaptor is dismantled for servicing flare components.

Frost grooves in the nut mean that the adaptors are suitable for wet environment, where the temperature is below the water freezing point. The nut cannot be loosened by encapsulated ice formation.

Features

- The flare / solder adaptor, type FSA, is for use where servicing or some other factor makes a "genuine" solder connection impractical.
- The adaptor can be used with advantage for components with flare connections on:
  1. Pressure controls
  2. Filter driers
  3. Sight glasses, etc.

Product specification

Standards

DIN 8964, which stipulates a maximum leak rate for refrigeration plant of < 6.4 × 10-6 mbar l/s at a differential pressure of 10 bar He.

The Dutch refrigeration standard (9.12.94/IBP 07d 94007, part 2.2.8.2.): In variation to regulation 2.2.8.1 flanged joints, compression joints, quick-couplings, flat or conical packing or trapped O-rings will be permitted, but only if the packing or O-ring provide the seal and are replaced if the joint is disconnected and then remade.

Technical data

Refrigerants: only approved for A1 and A2L refrigerants
Max. working pressure: PS/MWP = 46 bar
Leak rate: Max. 1 g / year

Table 1: Max. tightening torque

Size	Torque
¼ in. / 6 mm	20 Nm
⅜ in. / 10 mm	30 Nm
½ in. / 12 mm	60 Nm
⅝ in. / 16 mm	100 Nm
¾ in. / 18 mm	200 Nm

Type designation

Table 2: Type designation of FSA 36m

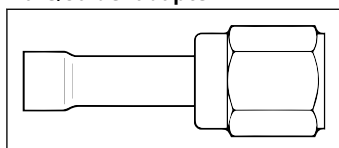| Type	Designation
FSA	Flare/ solder adapter
3	Flare nut in eighth of an inch 2 = ¼ in. or 6 mm, 3 = ⅜ in. or 10 mm, 4 = ½ in. or 12 mm, 5 = ⅝ in. or 16 mm, 6 = ¾ in.
6 m	Solder connection 2 = ¼ in., 3 = ⅜ in., 4 = ½ in., 6 = ¾ in. 6m = 6 mm, 10m = 10 mm, 12m = 12 mm, 16m = 16 mm or ⅝ in., 18m = 18 mm

Dimensions and Weight

Figure 1: Type FSA
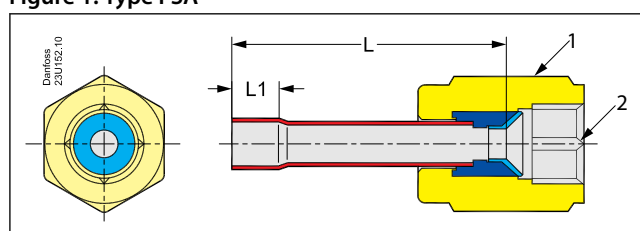
1	Marking
2	Frost grooves

Table 3: Dimensions and weight of FSA

Type	Connection		L [mm]	L₁ [mm]	Stamping	Weight [kg]
	Flare [in.]	Solder [ODF]				
FSA 22 FSA 26m	¼ ¼	¼in. 6 mm	39 39	7 7	IN MM	0.05 0.05
FSA 32 FSA 36m FSA 33 FSA 310m	⅜ ⅜ ⅜ ⅜	¼ in. 6 mm ⅜ in. 10 mm	50 50 50 50	7 7 8 9	IN MM IN MM	0.09 0.09 0.09 0.09
FSA 44 FSA 412m	½ ½	½ in. 12 mm	57 57	10 10	IN MM	0.11 0.11
FSA 516m	⅝	⅝ in. or 16 mm	57	12	MM	0.14
FSA 66 FSA 618m	¾ ¾	¾in 18 mm	68 68	14 14	IN MM	0.28 0.28

Ordering

Figure 2: Connections for Flare/solder adapter

Table 4: Ordering of FSA

| Type | Connections | | | Code no. |
| | Flare | Solder | | |
	in	in	mm	
Flare / solder adapter set: 2 pcs.				
FSA 22	¼	¼	-	023U8002
FSA 33	⅜	⅜	-	023U8004
FSA 44	½	½	-	023U8006
FSA 516m	⅝	⅝	-	023U8007
FSA 66	¾	¾	-	023U8010
FSA 26m	¼	-	6	023U8001
FSA 310m	⅜	-	10	023U8003
FSA 412m	½	-	12	023U8005
FSA 516m	⅝	-	16	023U8007
FSA 618m	¾	-	18	023U8009
Flare / solder adapter set, 1 pcs.				
FSA 22	¼	¼	-	023U8012
FSA 32	⅜	¼	-	023U8022
FSA 33	⅜	⅜	-	023U8014
FSA 44	½	½	-	023U8016
FSA 516m	⅝	⅝	-	023U8017
FSA 66	¾	¾	-	023U8020
FSA 26m	¼	-	6	023U8011
FSA 36m	⅜	-	6	023U8021
FSA 310m	⅜	-	10	023U8013
FSA 412m	½	-	12	023U8015
FSA 516m	⅝	-	16	023U8017
FSA 618m	¾	-	18	023U8019

Figure 3: Copper seal
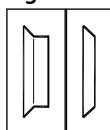
Table 5: Accessories

Copper seal	Size	Qty.	Code no.
B2 - 4 spec.	¼ in / 6 mm	300	011L4025
B2 - 6	⅜ in / 10 mm	300	011L4017
B2 - 8	½ in / 12 mm	200	011L4018
B2 -10	⅝ in / 16 mm	100	011L4019
B2 -12	¾ in / 18 mm	50	011L4020

Certificates, declarations, and approvals

The list contains all certificates, declarations, and approvals for this product type. Individual code number may have some or all of these approvals, and certain local approvals may not appear on the list.

Some approvals may change over time. You can check the most current status at danfoss.com or contact your local Danfoss representative if you have any questions.

Table 6: Certificates, declarations, and approvals

Document name	Document type	Document topic	Approval authority
067R1068	Manufacturers Declaration	PED	Danfoss
033F4006	Manufacturers Declaration	China RoHS	Danfoss
033F4011	Manufacturers Declaration	EU Rohs	Danfoss

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