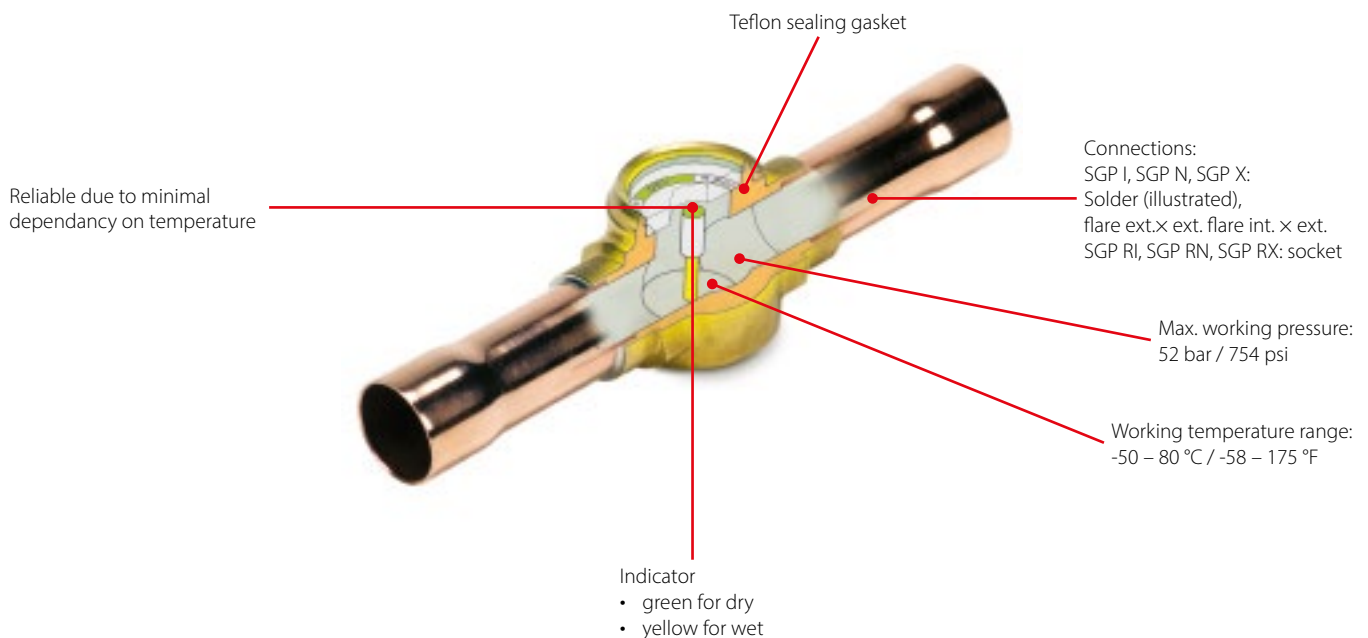


## SGP, Sight glass (high pressure)

SGP are sight glasses for high pressure applications (Max Working Pressure PS / MWP: 52 bar / 754 psi). SGP is available with flare, solder and socket connections, and with and without moisture indicators. SGP I / SGP N and SGP RI / SGP RN are equipped with sensitive

indicators that reflect a change in colour, depending on the moisture content in the refrigerant. SGP X and SGP RX, without moisture indicator, are mainly used to indicate the condition of the refrigerant in the liquid line or the flow in the oil return line from the oil separator.



### Facts

#### Application:

- Traditional refrigeration
- Heat pump systems
- Air conditioning units
- Liquid coolers
- Transport refrigeration
- Solder versions are compliant with ATEX hazard zone 2

For a fully updated list of approved refrigerants, visit [www.products.danfoss.com](http://www.products.danfoss.com) and search for individual code numbers, where refrigerants are listed as part of product specifications.

#### Type SGP X / SGP RX (without indicator)

- Indicates lack of subcooling
- Indicates refrigerant deficiency
- Indicates liquid level in receiver
- Indicates oil level in compressor

#### Type SGP I / SGP RI (with I type indicator)

- For R22, R290, R600, R600a, R1234yf refrigerants
- Indicates too high moisture content in the refrigeration system
- Indicates lack of subcooling
- Indicates refrigerant deficiency

#### Type SGP N / SGP RN (with N type indicator)

- For R22, R32, R134a, R404A, R407C, R507, R410A, R1270, R407A, R407F, R448A, R449A,

R450A, R452A, R452B, R454B, R513A, R1234ze, R744(CO<sub>2</sub>) refrigerants

- Indicates too high moisture content in the refrigeration system
- Indicates lack of subcooling
- Indicates refrigerant deficiency
- Connections:
  - Solder ODF x ODF
  - Solder ODF x ODM
  - Flare ext. x ext.
  - Flare int. x ext.
  - Socket
- Wide range with connection sizes from 6 to 22 mm or ¼ to ¾ in.










## Technical data

Max. working pressure: PS / MWP = 52 bar / 754 psi

Media temperature: -50 – 80 °C / -58 – 175 °F

Approvals: UL, EAC

### Available types

		
Solder version ODF x ODF SGP X without indicator	Flare External x External SGP X without indicator	Flare Internal x External SGP I and SGP N with indicator
		
Solder version ODF x ODM SGP I and SGP N with indicator	Solder version ODF x ODF SGP I and SGP N with indicator	Flare External x External SGP I and SGP N with indicator
		
Socket SGP RX without indicator	Socket SGP RI and SGP RN with indicator	Saddle SGS

### SGP I for R22, R290, R600, R600a, R1234yf refrigerants

#### Technical data

Refrigerant	Moisture content ppm = parts per million					
	SGP I / SGP RI					
	Media temperature 25 °C / 77 °F			Media temperature 43 °C / 109 °F		
	Green / dry	Intermed. color	Yellow / wet	Green / dry	Intermed. color	Yellow / wet
R22	< 150	150 – 300	> 300	< 250	250 – 500	> 500
R290	< 25	25 – 50	> 50	< 50	50 – 100	> 100
R600	< 10	10 – 20	> 20	< 28	28 – 55	> 55
R600a	< 11	11 – 22	> 22	< 30	30 – 60	> 60
R1234yf	< 93	93 – 130	> 130	< 130	130 – 247	> 247

## Technical data and ordering

**SGP N for R22, R32, R134a, R404A, R407C, R507, R410A, R1270, R407A, R407F, R448A, R449A, R450A, R452A, R452B, R454B, R513A, R1234ze, R744(CO<sub>2</sub>) refrigerants**

### Technical data

Refrigerant	Moisture content ppm = parts per million					
	SGP N / SGP RN					
	Media temperature 25 °C / 77 °F			Media temperature 43 °C / 109 °F		
	Green / dry	Intermed. color	Yellow / wet	Green / dry	Intermed. color	Yellow / wet
R22	< 30	30 – 120	> 120	< 50	50 – 200	> 200
R32	< 64	64 – 289	> 289	< 116	116 – 459	> 459
R134a	< 30	30 – 100	> 100	< 45	45 – 170	> 170
R404A	< 20	20 – 70	> 70	< 25	25 – 100	> 100
R407C	< 30	30 – 140	> 140	< 60	60 – 225	> 225
R507	< 15	15 – 60	> 60	< 30	30 – 110	> 110
R410A	< 66	66 – 266	> 266	< 135	135 – 540	> 540
R1270	< 16	16 – 62	> 62	< 29	29 – 115	> 115
R407A	< 29	29 – 115	> 115	< 48	48 – 192	> 192
R407F	< 30	30 – 168	> 168	< 60	60 – 240	> 240
R448A	< 28	28 – 110	> 110	< 70	70 – 227	> 227
R449A	< 29	29 – 105	> 105	< 53	53 – 200	> 200
R450A	< 23	23 – 148	> 148	< 46	46 – 245	> 245
R452A	< 20	20 – 79	> 79	< 30	30 – 143	> 143
R452B	< 70	70 – 260	< 260	< 144	144 – 260	> 260
R454B	< 29	29 – 161	> 161	< 58	58 – 250	> 250
R513A	< 22	22 – 75	> 75	< 22	22 – 123	> 123
R1234ze	< 26	26 – 132	> 132	< 28	28 – 165	> 165

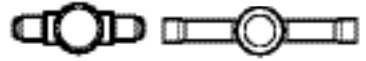


#### Note

-This product is approved for R290, R600, R600a and R1270 by ignition source assessment in accordance to standard EN13463-1.  
-For colours reflecting moisture values of other refrigerants, please contact Danfoss.

# Technical data and ordering

## SGP X without indicator



### Ordering - Solder / Flare type

Type	Connection type	Connection [in]	Connection [mm]	Code no.
SGP 10 X	Flare ext. x ext.	$\frac{3}{8} \times \frac{3}{8}$	10 x 10	014L0080
SGP 12s X	Solder ODF x ODF	$\frac{1}{2} \times \frac{1}{2}$	–	014L0086
SGP 16s X	Solder ODF x ODF	$\frac{5}{8} \times \frac{5}{8}$	16 x 16	014L0087
SGP 22s X	Solder ODF x ODF	$\frac{7}{8} \times \frac{7}{8}$	22 x 22	014L1207



**Note**  
Only solder versions are allowed for flammable refrigerants.

## SGP I with I type indicator



### Ordering

Type	Connection type	Connection [in]	Connection [mm]	Code no.
SGP 6 I	Flare ext. x ext.	$\frac{1}{4} \times \frac{1}{4}$	6 x 6	014L0007
SGP 10 I	Flare ext. x ext.	$\frac{3}{8} \times \frac{3}{8}$	10 x 10	014L0008
SGP 12 I	Flare ext. x ext.	$\frac{1}{2} \times \frac{1}{2}$	12 x 12	014L0009
SGP 16 I	Flare ext. x ext.	$\frac{5}{8} \times \frac{5}{8}$	16 x 16	014L0024
SGP 19 I	Flare ext. x ext.	$\frac{3}{4} \times \frac{3}{4}$	19 x 19	014L0028
SGP 6 I	Flare int. x ext. <sup>1)</sup>	$\frac{1}{4} \times \frac{1}{4}$	6 x 6	014L0021
SGP 10 I	Flare int. x ext. <sup>1)</sup>	$\frac{3}{8} \times \frac{3}{8}$	10 x 10	014L0022
SGP 12 I	Flare int. x ext. <sup>1)</sup>	$\frac{1}{2} \times \frac{1}{2}$	12 x 12	014L0025
SGP 16 I	Flare int. x ext. <sup>1)</sup>	$\frac{5}{8} \times \frac{5}{8}$	16 x 16	014L0026
SGP 19 I	Flare int. x ext. <sup>1)</sup>	$\frac{3}{4} \times \frac{3}{4}$	19 x 19	014L0043
SGP 6s I	ODF x ODF solder	$\frac{1}{4} \times \frac{1}{4}$	–	014L0034
SGP 10s I	ODF x ODF solder	$\frac{3}{8} \times \frac{3}{8}$	–	014L0035
SGP 12s I	ODF x ODF solder	$\frac{1}{2} \times \frac{1}{2}$	–	014L0036
SGP 16s I	ODF x ODF solder	$\frac{5}{8} \times \frac{5}{8}$	16 x 16	014L0044
SGP 19s I	ODF x ODF solder	$\frac{3}{4} \times \frac{3}{4}$	19 x 19	014L0047
SGP 22s I	ODF x ODF solder	$\frac{7}{8} \times \frac{7}{8}$	22 x 22	014L0039
SGP 6s I	ODF x ODF solder	–	6 x 6	014L0040
SGP 10s I	ODF x ODF solder	–	10 x 10	014L0041
SGP 12s I	ODF x ODF solder	–	12 x 12	014L0042
SGP 18s I	ODF x ODF solder	–	18 x 18	014L0045
SGP 6s I	ODF x ODM solder	$\frac{1}{4} \times \frac{1}{4}$	–	014L0125
SGP 10s I	ODF x ODM solder	$\frac{3}{8} \times \frac{3}{8}$	–	014L0126
SGP 12s I	ODF x ODM solder	$\frac{1}{2} \times \frac{1}{2}$	–	014L0127
SGP 16s I	ODF x ODM solder	$\frac{5}{8} \times \frac{5}{8}$	16 x 16	014L0128
SGP 22s I	ODF x ODM solder	$\frac{7}{8} \times \frac{7}{8}$	22 x 22	014L0130

<sup>1)</sup> Can be screwed directly into the filter drier.

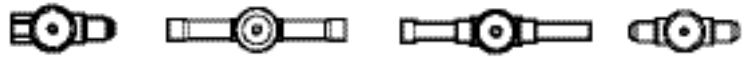


**Note**  
Only solder versions are allowed for flammable refrigerants.

# Technical data and ordering

## SGP N with N type indicator

### Ordering



Type	Version	Connection [in]	Connection [mm]	Code no.
SGP 6 N	Flare ext. x ext.	1/4 x 1/4	6 x 6	014L0161
SGP 10 N	Flare ext. x ext.	3/8 x 3/8	10 x 10	014L0162
SGP 12 N	Flare ext. x ext.	1/2 x 1/2	12 x 12	014L0163
SGP 16 N	Flare ext. x ext.	5/8 x 5/8	16 x 16	014L0165
SGP 19 N	Flare ext. x ext.	3/4 x 3/4	19 x 19	014L0166
SGP 6 N	Flare int. x ext. <sup>1)</sup>	1/4 x 1/4	6 x 6	014L0171
SGP 10 N	Flare int. x ext. <sup>1)</sup>	3/8 x 3/8	10 x 10	014L0172
SGP 12 N	Flare int. x ext. <sup>1)</sup>	1/2 x 1/2	12 x 12	014L0173
SGP 16 N	Flare int. x ext. <sup>1)</sup>	5/8 x 5/8	16 x 16	014L0174
SGP 19 N	Flare int. x ext. <sup>1)</sup>	3/4 x 3/4	19 x 19	014L0175
SGP 6s N	ODF x ODF solder	1/4 x 1/4	–	014L0181
SGP 10s N	ODF x ODF solder	3/8 x 3/8	–	014L0182
SGP 12s N	ODF x ODF solder	1/2 x 1/2	–	014L0183
SGP 16s N	ODF x ODF solder	5/8 x 5/8	16 x 16	014L0184
SGP 19s N	ODF x ODF solder	3/4 x 3/4	19 x 19	014L0185
SGP 22s N	ODF x ODF solder	7/8 x 7/8	22 x 22	014L0186
SGP 22s N <sup>2)</sup>	ODF x ODF solder	1 1/8 x 1 1/8	–	014L0187
SGP 6s N	ODF x ODF solder	–	6 x 6	014L0191
SGP 10s N	ODF x ODF solder	–	10 x 10	014L0192
SGP 12s N	ODF x ODF solder	–	12 x 12	014L0193
SGP 18s N	ODF x ODF solder	–	18 x 18	014L0195
SGP 6s N	ODF x ODM solder	1/4 x 1/4	–	014L0201
SGP 10s N	ODF x ODM solder	3/8 x 3/8	–	014L0202
SGP 12s N	ODF x ODM solder	1/2 x 1/2	–	014L0203
SGP 16s N	ODF x ODM solder	5/8 x 5/8	16 x 16	014L0204
SGP 22s N	ODF x ODM solder	7/8 x 7/8	22 x 22	014L0206

<sup>1)</sup> Can be screwed directly into the filter drier.

<sup>2)</sup> Oversize connections.



#### Note

Only solder versions are allowed for flammable refrigerants.

## SGP - socket type and SGS saddle

### Ordering



Type	Version	Connection		Floating ball [pc]	O-ring	Code no.
		1	2			
SGP 3/4 RX (no indicator)	G thread	G 3/4 A <sup>1)</sup>	–	1	No	014L0004
	NPT	3/4 – 14 NPT <sup>2)</sup>	–	1	No	014L0005
SGP 1/2 RX (no indicator)	NPT	1/2 – 14 NPT <sup>2)</sup>	–	3	No	014L0002
SGP 1/2 RI (I type indicator)	NPT	1/2 – 14 NPT <sup>2)</sup>	–	3	No	014L0131
SGP 24 RI (I type indicator)	M thread	M24 x 1	–	–	Yes	014L1154
SGP 1/2 RN (N type indicator)	NPT	1/2 – 14 NPT <sup>2)</sup>	–	3	No	014L0006
SGP 24 RN (N type indicator)	M thread	M24 x 1	–	–	Yes	014L1155
SGP 20 RN (N type indicator)	M thread	M20 x 1.5	–	–	No	014L1601
SGS (saddle)	Tube fitting	M20 x 1.5	1 1/8	–	–	014-1071
	Tube fitting	M20 x 1.5	1 3/8	–	–	014-1074
	Tube fitting	M24 x 1	7/8	–	–	014-1059
	Tube fitting	M24 x 1	1 1/8	–	–	014-1056
	Tube fitting	M24 x 1	1 3/8	–	–	014-1057
	Tube fitting	M24 x 1	1 1/2	–	–	014-1058
Tube fitting	M24 x 1	2 1/8	–	–	014-1067	

<sup>1)</sup> ISO 228-1.

<sup>2)</sup> ANSI / ASME B1.20.1



#### Note

Only solder versions are allowed for flammable refrigerants.