



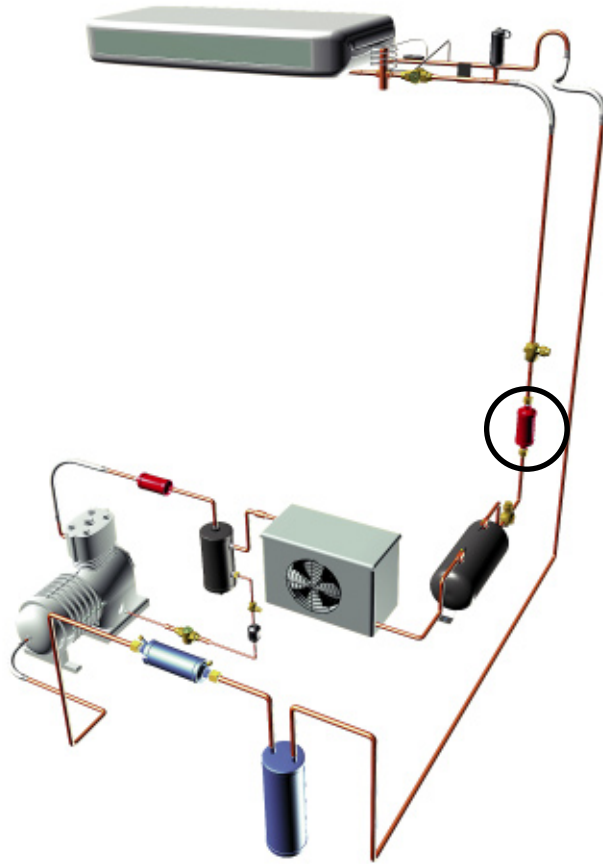
Anti-acid filter driers

→ DCY

02/08

■ Applications

- Filtering and drying of refrigerants and acid neutralization for liquid lines of refrigerating and air conditioning installations.



■ Functional features

- Products are compatible with HFCs, HCFCs, CFCs, as well as with their associated oils and additives. Products are designed for use of non-hazardous refrigerants from group 2 of PED 97/23/EC.
- Product classification in CE categories is done with the PED 97/23/EC table, corresponding to a volume-based selection.
- Filtering at outlet preventing propagation within the circuit of particles bigger than 12 microns.
- No desorption, even at a high temperature.

■ CARLY advantages

- Great drying and acid neutralization capacity at all temperatures, thanks to a rigorous selection and a judicious mix of the chemical agents present in the filter driers (activated alumina in order to neutralise the acids and molecular sieves to adsorb moisture).
- Initial drying capacity guaranteed by a 200°C oven drying and airtight sealing.
- Filter driers sizes that ensure interchangeability with most products of the market.
- A dispenser located at the intake ensures optimal distribution and permanent treatment of the whole refrigerant, inside the filter drier.
- Connections to solder are made of copper-plated steel up to connections diameter 3/4" included and allow the use of filler metals with a low silver content; their resistance to pressure is much higher than that of full copper connections.
- GOST certified products.



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■ Recommendations

- * Filter driers are to be mounted on the liquid line between the receiver and the expansion element.
- * The refrigerant flow direction is indicated by an "IN" mark in the inlet shell of the filter drier and by an arrow on the filter drier tag. It must be necessarily respected.
- * Be careful to properly select the solenoid valves located downstream of the filter driers; their over-sizing could cause liquid hammer phenomena hindering the filter driers' mechanical behaviour; protection of regulation elements located upstream of the evaporator should be performed with FILTRY dirt filters (refer to chapter 8); these liquid hammer phenomena can originate from other sources, in long-piping installations.
- * Never install the filter driers in an area of the circuit that can be isolated.
- * We recommend the use of a 10 % silver braze for the brazing of copper plated steel connections.
- * Never trap the refrigerant in its liquid state (between a check valve and a solenoid valve, for instance).
- * Filter driers replacement is imperative after each intervention on the installation, and at least once a year.
- * Filter drier efficiency and refrigerant moisture content should be checked using VCYL or VCYLS liquid sight glasses (refer to chapter 7).
- * General assembly precautions: refer to chapter 115.

■ Selection table: Male/female connections to screw

CARLY references	Flare connections SAE inch	Refrigerating capacity (kW) ⁽¹⁾				Dehydratable refrigerant capacity (kg of refrigerant) ⁽²⁾					
		R22	R134a	R404A R507	R407C R410A	R22 R407C		R134a R410A		R404A R507	
						24°C	52°C	24°C	52°C	24°C	52°C
DCY 032 MF	1/4	8,0	7,7	5,5	8,2	6,5	5,5	7,0	6,0	6,5	5,5
DCY 052 MF	1/4	8,5	8,0	6,0	8,5	9,5	9,0	11,5	10,0	9,5	8,0
DCY 053 MF	3/8	23,0	22,0	16,0	23,5	9,5	9,0	11,5	10,0	9,5	8,0
DCY 082 MF	1/4	9,0	8,5	6,5	9,0	15,0	14,5	16,5	15,0	14,5	13,5
DCY 083 MF	3/8	24,0	23,0	17,0	24,5	15,0	14,5	16,5	15,0	14,5	13,5
DCY 163 MF	3/8	24,5	24,0	18,0	25,0	40,0	34,0	50,0	37,0	38,0	31,0

⁽¹⁾ Refrigerating capacities according to Standard ARI 710-86 for $T_o = -15^{\circ}\text{C}$, $T_k = 30^{\circ}\text{C}$ and $\Delta p = 0.07$ bar. If different conditions, refer to correction factors in chapter 112.

⁽²⁾ Dehydratable refrigerant capacity according to Standard ARI 710-86.



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■ Selection table

CARLY references	Connections		CARLY references	Connections To solder ODF mm	Refrigerating capacity (kW) ⁽¹⁾				Dehydratable refrigerant capacity (kg of refrigerant) ⁽²⁾					
	To screw SAE inch	To solder ODF inch			R22	R134a	R404A R507	R407C R410A	R22 R407C		R134a R410A		R404A R507	
							24°C	52°C	24°C	52°C	24°C	52°C		
DCY 032	1/4				8,0	7,7	5,5	8,2	6,5	5,5	7,0	6,0	6,5	5,5
DCY 032 S		1/4	DCY 032 MMS	6	8,0	7,7	5,5	8,2	6,5	5,5	7,0	6,0	6,5	5,5
DCY 033	3/8				22,0	20,0	15,5	22,5	6,5	5,5	7,0	6,0	6,5	5,5
DCY 033 S		3/8	DCY 033 MMS	10	22,0	20,0	15,5	22,5	6,5	5,5	7,0	6,0	6,5	5,5
DCY 052	1/4				8,5	8,0	6,0	8,5	9,5	9,0	11,5	10,0	9,5	8,0
DCY 052 S		1/4	DCY 052 MMS	6	8,5	8,0	6,0	8,5	9,5	9,0	11,5	10,0	9,5	8,0
DCY 053	3/8				23,0	22,0	16,0	23,5	9,5	9,0	11,5	10,0	9,5	8,0
DCY 053 S		3/8	DCY 053 MMS	10	23,0	22,0	16,0	23,5	9,5	9,0	11,5	10,0	9,5	8,0
DCY 082	1/4				9,0	8,5	6,5	9,0	15,0	14,5	17,0	15,5	14,5	13,5
DCY 082 S		1/4	DCY 082 MMS	6	9,0	8,5	6,5	9,0	15,0	14,5	17,0	15,5	14,5	13,5
DCY 083	3/8				24,0	23,0	17,0	24,5	15,0	14,5	17,0	15,5	14,5	13,5
DCY 083 S		3/8	DCY 083 MMS	10	24,0	23,0	17,0	24,5	15,0	14,5	17,0	15,5	14,5	13,5
DCY 084	1/2				38,0	37,0	30,0	39,5	15,0	14,5	17,0	15,5	14,5	13,5
DCY 084 S		1/2	DCY 084 MMS	12	38,0	37,0	30,0	39,5	15,0	14,5	17,0	15,5	14,5	13,5
DCY 162	1/4				9,0	8,5	6,5	9,0	40,0	34,0	50,0	37,0	38,0	31,0
DCY 162 S		1/4	DCY 162 MMS	6	9,0	8,5	6,5	9,0	40,0	34,0	50,0	37,0	38,0	31,0
DCY 163	3/8				24,5	24,0	18,0	25,0	40,0	34,0	50,0	37,0	38,0	31,0
DCY 163 S		3/8	DCY 163 MMS	10	24,5	24,0	18,0	25,0	40,0	34,0	50,0	37,0	38,0	31,0
DCY 164	1/2				41,5	40,0	32,0	43,0	40,0	34,0	50,0	37,0	38,0	31,0
DCY 164 S		1/2	DCY 164 MMS	12	41,5	40,0	32,0	43,0	40,0	34,0	50,0	37,0	38,0	31,0
DCY 165	5/8				68,0	66,0	50,0	70,0	40,0	34,0	50,0	37,0	38,0	31,0
DCY 165 S/MMS		5/8	DCY 165 S/MMS	16	68,0	66,0	50,0	70,0	40,0	34,0	50,0	37,0	38,0	31,0
DCY 302	1/4				9,0	8,5	6,5	9,0	70,0	61,0	80,5	69,0	69,5	56,0
DCY 303	3/8				25,0	24,5	18,0	26,0	70,0	61,0	80,5	69,0	69,5	56,0
DCY 303 S		3/8	DCY 303 MMS	10	25,0	24,5	18,0	26,0	70,0	61,0	80,5	69,0	69,5	56,0
DCY 304	1/2				45,0	42,0	34,0	46,0	70,0	61,0	80,5	69,0	69,5	56,0
DCY 304 S		1/2	DCY 304 MMS	12	45,0	42,0	34,0	46,0	70,0	61,0	80,5	69,0	69,5	56,0
DCY 305	5/8				70,0	68,0	51,0	72,0	70,0	61,0	80,5	69,0	69,5	56,0
DCY 305 S/MMS		5/8	DCY 305 S/MMS	16	70,0	68,0	51,0	72,0	70,0	61,0	80,5	69,0	69,5	56,0
DCY 307 S		7/8	DCY 307 MMS	22	110,0	105,0	80,0	115,0	70,0	61,0	80,5	69,0	69,5	56,0
DCY 414	1/2				46,0	44,0	36,0	47,0	114,0	102,5	130,0	112,0	108,0	95,0
DCY 415	5/8				72,0	70,0	52,0	74,0	114,0	102,5	130,0	112,0	108,0	95,0
DCY 415 S/MMS		5/8	DCY 415 S/MMS	16	72,0	70,0	52,0	74,0	114,0	102,5	130,0	112,0	108,0	95,0
DCY 417 S		7/8	DCY 417 MMS	22	122,0	118,0	85,0	125,0	114,0	102,5	130,0	112,0	108,0	95,0
DCY 755	5/8				75,0	73,0	55,0	77,0	168,0	147,0	179,0	155,0	159,0	134,0
DCY 756	3/4 BSP				93,0	91,0	65,0	95,0	168,0	147,0	179,0	155,0	159,0	134,0
DCY 756 S		3/4	DCY 756 MMS	18	93,0	91,0	65,0	95,0	168,0	147,0	179,0	155,0	159,0	134,0
DCY 967 S		7/8	DCY 967 MMS	22	125,0	123,0	91,0	135,0	168,0	147,0	179,0	155,0	159,0	134,0
DCY 969 S		1 1/8	DCY 969 MMS	28	126,0	128,0	92,0	148,0	168,0	147,0	179,0	155,0	159,0	134,0

⁽¹⁾ Refrigerating capacities according to Standard ARI 710-86 for To = -15°C, Tk = 30°C and Δp = 0.07 bar. If different conditions, refer to correction factors in chapter 112.

⁽²⁾ Dehydratable refrigerant capacity according to Standard ARI 710-86.



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■ Example of selection of a DCY anti-acid filter drier

The sizing of a product implies that the buyer takes into account the conditions under which the product is going to be used (temperature - pressure - refrigerant - oil - external environment). The values proposed in the CARLY catalogue selection tables match specific test conditions.

In order to define a correct sizing, we suggest that you convert your operating data into data that match the CARLY selection tables.

- Installation operating with R404A under the following conditions⁽¹⁾:

- To = -20°C
- Tk = 35°C
- Q_ox = 46 kW
- 69 kg of refrigerant at 24°C

- Which **DCY** anti-acid filter drier to choose?

* DCY SELECTION

- Conversion of installation capacity to match the conditions of Standard ARI 710-86.

Refer to correction factor table page 112.3: fct = 1.10

$$Q_{o,x} \times fct = Q_{o,ARI}$$

$$Q_{o,ARI} = 46 \times 1,10 = 50,6 \text{ i.e } 51 \text{ kW}$$

- DCY type selection and reading of selection table on page 1.3

- R 404A
- 69 kg refrigerant at 24°C
- Q_oARI = 51 kW

Filter drier volume selection depends on the installation total refrigerant capacity. For a quantity of 69 kg of R404A, selection should be done from the DCY 300 product line. See dehydratable refrigerant capacity column.

Selection of the connection, hence of the filter drier, is performed by carrying the Q_oARI refrigerating capacity and the refrigerant over to the refrigerating capacity column.

Result: DCY 305 S/MMS (connections to solder) or **DCY 305** (connections to screw)

If the Q_oARI value is between two CARLY filter drier types in the selection table, it is recommended to select the filter drier with the greater capacity.

CARLY references	Connections		CARLY references	Connections To solder ODF mm	Refrigerating capacity (kW) ⁽¹⁾				Dehydratable refrigerant capacity (kg of refrigerant) ⁽²⁾					
	To screw SAE inch	To solder ODF inch			R22	R134a	R404A R507	R407C R410A	R22 R407C		R134a R410A		R404A R507	
									24°C	52°C	24°C	52°C	24°C	52°C
DCY 304	1/2				45	42	34	46	70	61	80,5	69	69,5	56
DCY 304 S		1/2	DCY 304 MMS	12	45	42	34	46	70	61	80,5	69	69,5	56
DCY 305	5/8				70	68	51	72	70	61	80,5	69	69,5	56
DCY 305 S/MMS		5/8	DCY 305 S/MMS	16	70	68	51	72	70	61	80,5	69	69,5	56

⁽¹⁾ Chapter "Abbreviations and units" (refer to chapter 113).

⁽²⁾ Dehydratable refrigerant capacity according to Standard ARI 710-86.



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■ Technical features

CARLY references		Connections types ⁽¹⁾	Filtering surface (cm ²)	Volume of desiccation products (cm ³)	Dimensions (mm)		Net weight (kg)
					Ø	L	
DCY 032		1	52	59,0	53,0	108,5	0,30
DCY 032 S	DCY 032 MMS	2	52	59,0	53,0	98,5	0,30
DCY 033		1	52	59,0	53,0	114,5	0,30
DCY 033 S	DCY 033 MMS	2	52	59,0	53,0	98,5	0,30
DCY 052		1	52	81,5	53,0	121,5	0,35
DCY 052 S	DCY 052 MMS	2	52	81,5	53,0	111,5	0,35
DCY 053		1	52	81,5	53,0	127,5	0,35
DCY 053 S	DCY 053 MMS	2	52	81,5	53,0	111,5	0,35
DCY 082		1	52	130,0	53,0	149,5	0,40
DCY 082 S	DCY 082 MMS	2	52	130,0	53,0	139,5	0,40
DCY 083		1	52	130,0	53,0	155,5	0,40
DCY 083 S	DCY 083 MMS	2	52	130,0	53,0	139,5	0,40
DCY 084		1	52	130,0	53,0	159,5	0,45
DCY 084 S	DCY 084 MMS	2	52	130,0	53,0	139,5	0,45
DCY 162		1	102	321,6	74,0	169,0	0,90
DCY 162 S	DCY 162 MMS	2	102	321,6	74,0	159,0	0,90
DCY 163		1	102	321,6	74,0	175,0	0,90
DCY 163 S	DCY 163 MMS	2	102	321,6	74,0	159,0	0,90
DCY 164		1	102	321,6	74,0	179,5	0,95
DCY 164 S	DCY 164 MMS	2	102	321,6	74,0	159,0	0,95
DCY 165		1	102	321,6	74,0	183,5	1,00
DCY 165 S/MMS	DCY 165 S/MMS	2	102	321,6	74,0	163,0	1,00
DCY 302		1	102	581,6	74,0	245,5	1,35
DCY 303		1	102	581,6	74,0	251,5	1,35
DCY 303 S	DCY 303 MMS	2	102	581,6	74,0	235,5	1,35
DCY 304		1	102	581,6	74,0	255,5	1,40
DCY 304 S	DCY 304 MMS	2	102	581,6	74,0	235,5	1,40
DCY 305		1	102	581,6	74,0	259,5	1,50
DCY 305 S/MMS	DCY 305 S/MMS	2	102	581,6	74,0	239,5	1,50
DCY 307 S	DCY 307 MMS	2	102	581,6	74,0	259,5	1,55
DCY 414		1	170	936,0	93,0	252,5	2,10
DCY 415		1	170	987,0	93,0	265,5	2,20
DCY 415 S/MMS	DCY 415 S/MMS	2	170	987,0	93,0	245,5	2,20
DCY 417 S	DCY 417 MMS	2	170	1060,0	93,0	278,5	2,25
DCY 755		1	170	1327,0	93,0	325,5	2,70
DCY 756		1	170	1327,0	93,0	333,5	2,70
DCY 756 S	DCY 756 MMS	2	170	1327,0	93,0	311,5	2,70
DCY 967 S	DCY 967 MMS	2	170	1327,0	93,0	325,5	2,75
DCY 969 S	DCY 969 MMS	3	170	1327,0	93,0	335,5	2,85

⁽¹⁾ Chapter "Connection features and drawings" (refer to chapter 114).



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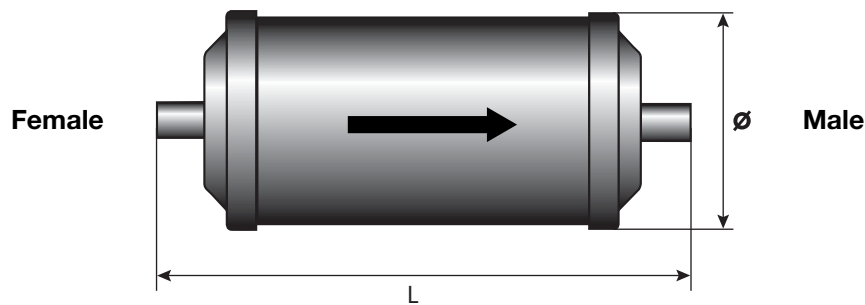
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■ Technical features: Male/female connections to screw

CARLY references	Connection types (1)	Filtering surface (cm ²)	Volume of desiccation products (cm ³)	Dimensions (mm)		Net weight (kg)
				Ø	L	
DCY 032 MF	1	52	59,0	53	105,5	0,30
DCY 052 MF	1	52	81,5	53	118,5	0,40
DCY 053 MF	1	52	81,5	53	124,5	0,40
DCY 082 MF	1	52	130,0	53	146,5	0,45
DCY 083 MF	1	52	130,0	53	152,5	0,45
DCY 163 MF	1	102	321,6	74	172,0	0,95

(1) Chapter "Connection features and drawings" (refer to chapter 114).





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■ Technical features

CARLY references		Volume	Maximal working pressure	Working pressure ⁽¹⁾	Maximal working temperature	Minimal working temperature	Working temperature ⁽¹⁾	CE Category ⁽²⁾
DCY 032		0,10	42	10	80	-40	-20	Art3§3
DCY 032 S	DCY 032 MMS	0,10	42	10	80	-40	-20	Art3§3
DCY 033		0,10	42	10	80	-40	-20	Art3§3
DCY 033 S	DCY 033 MMS	0,10	42	10	80	-40	-20	Art3§3
DCY 052		0,12	42	10	80	-40	-20	Art3§3
DCY 052 S	DCY 052 MMS	0,12	42	10	80	-40	-20	Art3§3
DCY 053		0,12	42	10	80	-40	-20	Art3§3
DCY 053 S	DCY 053 MMS	0,12	42	10	80	-40	-20	Art3§3
DCY 082		0,16	42	10	80	-40	-20	Art3§3
DCY 082 S	DCY 082 MMS	0,16	42	10	80	-40	-20	Art3§3
DCY 083		0,17	42	10	80	-40	-20	Art3§3
DCY 083 S	DCY 083 MMS	0,17	42	10	80	-40	-20	Art3§3
DCY 084		0,17	42	10	80	-40	-20	Art3§3
DCY 084 S	DCY 084 MMS	0,17	42	10	80	-40	-20	Art3§3
DCY 162		0,39	42	10	80	-40	-20	Art3§3
DCY 162 S	DCY 162 MMS	0,39	42	10	80	-40	-20	Art3§3
DCY 163		0,40	42	10	80	-40	-20	Art3§3
DCY 163 S	DCY 163 MMS	0,40	42	10	80	-40	-20	Art3§3
DCY 164		0,42	42	10	80	-40	-20	Art3§3
DCY 164 S	DCY 164 MMS	0,42	42	10	80	-40	-20	Art3§3
DCY 165		0,42	42	10	80	-40	-20	Art3§3
DCY 165 S/MMS	DCY 165 S/MMS	0,42	42	10	80	-40	-20	Art3§3
DCY 302		0,65	42	10	80	-40	-20	Art3§3
DCY 303		0,66	42	10	80	-40	-20	Art3§3
DCY 303 S	DCY 303 MMS	0,66	42	10	80	-40	-20	Art3§3
DCY 304		0,67	42	10	80	-40	-20	Art3§3
DCY 304 S	DCY 304 MMS	0,67	42	10	80	-40	-20	Art3§3
DCY 305		0,68	42	10	80	-40	-20	Art3§3
DCY 305 S/MMS	DCY 305 S/MMS	0,68	42	10	80	-40	-20	Art3§3
DCY 307 S	DCY 307 MMS	0,68	42	10	80	-40	-20	Art3§3
DCY 414		1,09	42	10	80	-40	-20	Art3§3
DCY 415		1,14	42	10	80	-40	-20	Art3§3
DCY 415 S/MMS	DCY 415 S/MMS	1,14	42	10	80	-40	-20	Art3§3
DCY 417 S	DCY 417 MMS	1,22	42	10	80	-40	-20	Art3§3
DCY 755		1,48	42	10	80	-40	-20	I
DCY 756		1,48	42	10	80	-40	-20	I
DCY 756 S	DCY 756 MMS	1,48	42	10	80	-40	-20	I
DCY 967 S	DCY 967 MMS	1,49	42	10	80	-40	-20	I
DCY 969 S	DCY 969 MMS	1,49	42	10	80	-40	-20	I

(1) The working pressure is limited to the PS BT value when working temperature is lower than or equal to TS BT value.

(2) Classification by volume, according to PED 97/23/EC (refer to Chapter 0 page 7).



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■ Technical features: Male/female connections to screw

CARLY references	Volume	Maximal working pressure	Working pressure ⁽¹⁾	Maximal working temperature	Minimal working temperature	Working temperature ⁽¹⁾	CE Category ⁽²⁾
	V (L)	PS (bar)	PS BT (bar)	TS maxi (°C)	TS mini (°C)	TS BT (°C)	
DCY 032 MF	0,10	42	10	80	-40	-20	Art3§3
DCY 052 MF	0,12	42	10	80	-40	-20	Art3§3
DCY 053 MF	0,12	42	10	80	-40	-20	Art3§3
DCY 082 MF	0,16	42	10	80	-40	-20	Art3§3
DCY 083 MF	0,17	42	10	80	-40	-20	Art3§3
DCY 163 MF	0,40	42	10	80	-40	-20	Art3§3

(1) The working pressure is limited to the PS BT value when working temperature is lower than or equal to TS BT value.

(2) Classification by volume, according to PED 97/23/EC (refer to Chapter 0 page 7).

■ Spare parts

CARLY references	Part Nb	Description	Types	Quantity
CY 15590015	1	Set of 25 guided taper copper gaskets for 1/4" SAE (flare) connections	DCY 032 MF	1
			DCY 052 MF	
			DCY 082 MF	
CY 15590025	1	Set of 25 guided taper copper gaskets for 3/8" SAE (flare) connections	DCY 053 MF	1
			DCY 083 MF	
			DCY 163 MF	

