



MODULATING DUAL FUEL BURNERS

► GI/EMME SERIES

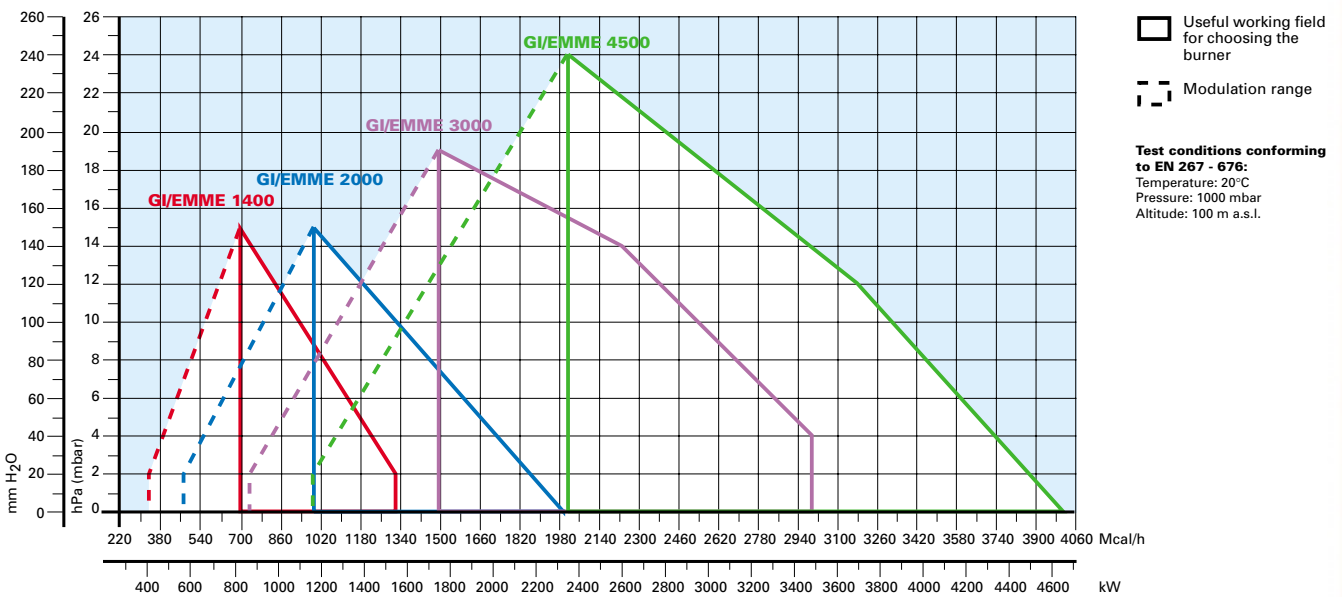
► GI/EMME 1400	407/820 ÷ 1540 kW
► GI/EMME 2000	581/1163 ÷ 2325 kW
► GI/EMME 3000	872/1744 ÷ 3488 kW
► GI/EMME 4500	1163/2350 ÷ 4650 kW



The GI/EMME 1400-4500 series of burners covers a firing range from 407 to 4650 kW. They have been designed for high output users and they are suitable for matching with every kind of boilers, with normal or pressurized combustion chamber. Operation can be "two stage progressive" or, alternatively, "modulating" with the installation of a PID logic regulator and respective probes. Two options of operation are available: only gas and only light oil, thus settable by a manual switch. Light oil circuit is fitted with his own electric motor:

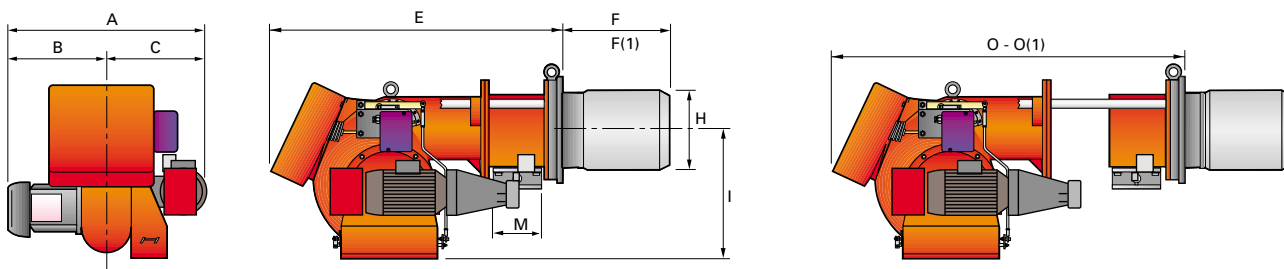
this permits pump stop during gas operation preventing danger of pumping seizure and avoiding oil circulation. A wide range of accessories and gas trains suitable to the burners guarantee an elevated working flexibility.

FIRING RATES



GI/EMME series - OVERALL DIMENSIONS (mm)

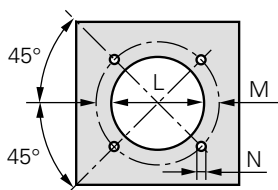
BURNER



Model	A	B	C	E	F - F(1)	H	I	M	O - O(1)
▶ GI/EMME 1400	858	376	482	1090	385 - 495	250	467	2"	1407 - 1585
▶ GI/EMME 2000	878	396	482	1090	385 - 495	260	467	DN 80	1407 - 1585
▶ GI/EMME 3000	985	447	538	1320	476 - 606	336	525	DN 80	1796 - 2000
▶ GI/EMME 4500	1046	508	538	1320	476 - 606	336	525	DN 80	1796 - 1926

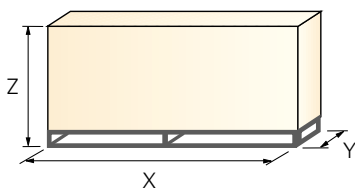
(1) Length with extended combustion head

BURNER - BOILER MOUNTING FLANGE



Model	L	M	N
▶ GI/EMME 1400	255	368	M 16
▶ GI/EMME 2000	265	368	M 16
▶ GI/EMME 3000	340	438	M 20
▶ GI/EMME 4500	340	438	M 20

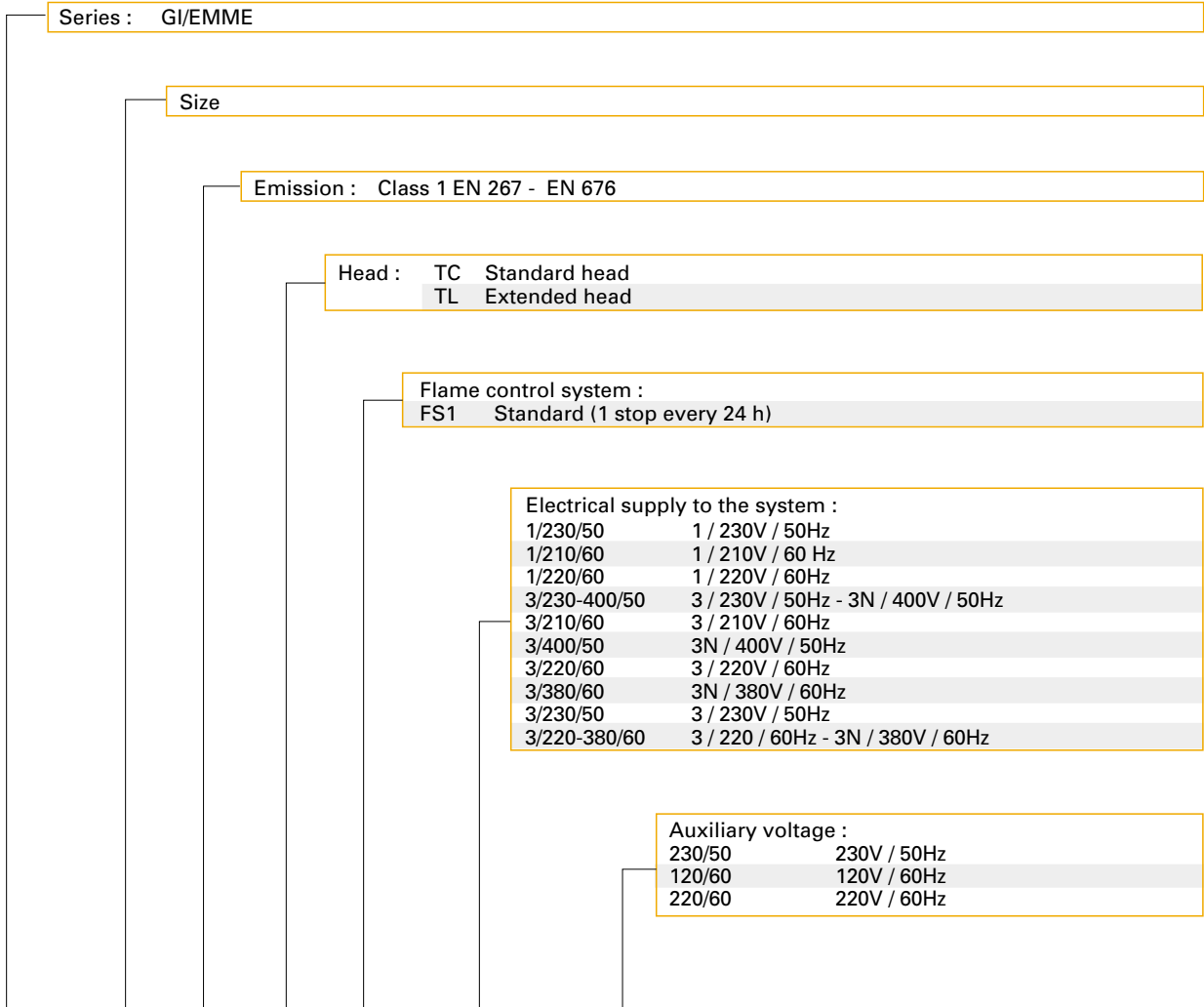
PACKAGING



Model	X	Y	Z	kg
▶ GI/EMME 1400	1670	1010	780	190
▶ GI/EMME 2000	1670	1010	780	200
▶ GI/EMME 3000	2000	1160	870	280
▶ GI/EMME 4500	2000	1160	870	280

GI/EMME series - SPECIFICATION

DESIGNATION OF SERIES



GI/EMME	1400		TC	FS1	3/230-400/50	230/50
BASIC DESIGNATION			EXTENDED DESIGNATION			

► GI/EMME series - STATE OF SUPPLY

Monoblock forced draught dual fuel burner, two stage progressive or modulating operation with a kit, made up of:

- Air suction circuit
- Fan with forward curved blades
- Air damper for setting and butterfly valve for regulating fuel output controlled by a servomotor
- Combustion head, that can be set on the basis of required output
- Maximum gas pressure switch
- Minimum air pressure switch
- Fan electrical motor
- Pump electrical motor
- Gears pump for high pressure fuel supply, fitted with:
 - filter
 - pressure regulator
 - connections for installing a pressure gauge and a a vacuumeter
 - internal by-pass for single pipe installation
- Valve unit with a double oil safety valve on the output circuit and safety valve on the return circuit
- UV photocell for flame detection
- Flame inspection window
- Slide bars for easier installation and maintenance
- Protection filter against radio interference
- IP 40 protection level.

Standard equipment:

- 1 flange (for GI/EMME 1400)
- 1 gas train gasket
- 8 screws for fixing the burner flange to the boiler (for GI/EMME 1400)
- 12 screws for fixing the burner flange to the boiler
- 1 insulating screen
- 2 flexible hoses for connection to the oil supply circuit
- 2 nipples for connection to the pump
- 4 wiring looms fittings for electrical connections
- 2 pin extensions
- 8 washers (for GI/EMME 1400)
- 12 washers
- Instruction handbook for installation, use and maintenance
- Spare parts catalogue.

GI/EMME series - AVAILABLE BURNER MODELS

Code	Model	Heat output			Total electrical power (kW)	Certification	Note	Price
		(kW)	Light oil (kg/h)	Natural Gas (Nm ³ /h)				
3486683	GI/EMME 1400 TC FS1 3/220-380/60 220/60	415/814-1660	35/69-140	41/81-166	3 + 1,1	-		
3486655	GI/EMME 1400 TC FS1 3/230-400/50 230/50	407/820-1540	34/69-130	41/82-154	3 + 1,1	(1)		
3486684	GI/EMME 1400 TL FS1 3/220-380/60 220/60	415/814-1660	35/69-140	41/81-166	3 + 1,1	-		
3486656	GI/EMME 1400 TL FS1 3/230-400/50 230/50	407/820-1540	34/69-130	41/82-154	3 + 1,1	(1)		
3487683	GI/EMME 2000 TC FS1 3/220-380/60 220/60	590/1163-2370	50/98-200	59/116-237	4 + 1,1	-		
3487657	GI/EMME 2000 TC FS1 3/230-400/50 230/50	581/1163-2325	49/98-196	58/116-233	4 + 1,1	(2)		
3487659	GI/EMME 2000 TC FS1 3/400/50 230/50	581/1163-2325	49/98-196	58/116-233	4 + 1,1	(2)	*	
3487684	GI/EMME 2000 TL FS1 3/220-380/60 220/60	590/1163-2370	50/98-200	59/116-237	4 + 1,1	-		
3487658	GI/EMME 2000 TL FS1 3/230-400/50 230/50	581/1163-2325	49/98-196	58/116-233	4 + 1,1	(2)		
3487660	GI/EMME 2000 TL FS1 3/400/50 230/50	581/1163-2325	49/98-196	58/116-233	4 + 1,1	(2)	*	
3488783	GI/EMME 3000 TC FS1 3/220-380/60 220/60	890/1744-3560	75/147-300	89/174-356	9 + 1,5	-		
3488757	GI/EMME 3000 TC FS1 3/230-400/50 230/50	872/1744-3488	74/147-294	87/174-349	9 + 1,5	(3)		
3488759	GI/EMME 3000 TC FS1 3/400/50 230/50	872/1744-3488	74/147-294	87/174-349	9 + 1,5	(3)	*	
3488784	GI/EMME 3000 TL FS1 3/220-380/60 220/60	890/1744-3560	75/147-300	89/174-356	9 + 1,5	-		
3488758	GI/EMME 3000 TL FS1 3/230-400/50 230/50	872/1744-3488	74/147-294	87/174-349	9 + 1,5	(3)		
3488760	GI/EMME 3000 TL FS1 3/400/50 230/50	872/1744-3488	74/147-294	87/174-349	9 + 1,5	(3)	*	
3489085	GI/EMME 4500 TC FS1 3/220/60 220/60	1190/2325-5100	100/196-430	119/233-510	12 + 1,5	-	*	
3489063	GI/EMME 4500 TC FS1 3/230/50 230/50	1163/2350-4650	98/198-392	116/235-465	12 + 1,5	(4)	*	
3489087	GI/EMME 4500 TC FS1 3/380/60 220/60	1190/2325-5100	100/196-430	119/233-510	12 + 1,5	-	*	
3489065	GI/EMME 4500 TC FS1 3/400/50 230/50	1163/2350-4650	98/198-392	116/235-465	12 + 1,5	(4)	*	
3489086	GI/EMME 4500 TL FS1 3/220/60 220/60	1190/2325-5100	100/196-430	119/233-510	12 + 1,5	-	*	
3489064	GI/EMME 4500 TL FS1 3/230/50 230/50	1163/2350-4650	98/198-392	116/235-465	12 + 1,5	(4)	*	
3489088	GI/EMME 4500 TL FS1 3/380/60 220/60	1190/2325-5100	100/196-430	119/233-510	12 + 1,5	-	*	
3489066	GI/EMME 4500 TL FS1 3/400/50 230/50	1163/2350-4650	98/198-392	116/235-465	12 + 1,5	(4)	*	

(1) CE 0085AQ0712 - DIN 5G830/97 M.

(2) CE 0085AQ0712 - DIN 5G831/97 M.

(3) CE 0085AQ0712 - DIN 5G832/97 M.

(4) CE 0085AQ0712 - DIN 5G833/97 M.

* Star delta starter.

Net calorific value light oil: 11,8 kWh/kg; 10.200 kcal/kg - Viscosity at 20°C: 4-6 mm²/s (cSt).

Net calorific value G20 gas: 10 kWh/Nm³; 8.600 kcal/Nm³ - Density: 0,71 kg/Nm³.

The burners of GI/EMME series are in according to 90/396 - 89/336 - 73/23 EEC Directive and EN 267-676 Norm.

GI/EMME series - AVAILABLE GAS TRAIN MODELS

	Gas train code*	Gas train model	Natural gas		LPG		Note	Gas train price
			Burner (type)	Adapter** (code)	Burner (type)	Adapter** (code)		
MULTIBLOC	3970181	MBD 420	GI/EMME 1400 GI/EMME 2000	- 3010128	GI/EMME 1400 GI/EMME 2000	- 3010128	(1)	
	3970182	MBD 420 CT	GI/EMME 1400 GI/EMME 2000	- 3010128	GI/EMME 1400 GI/EMME 2000	- 3010128	(2)	
COMPOSED	3970146	CB 50/1	GI/EMME 1400 GI/EMME 2000	- 3010128	GI/EMME 1400 GI/EMME 2000	- 3010128	(1)	
	3970160	CB 50/1 CT	GI/EMME 1400 GI/EMME 2000	- 3010128	GI/EMME 1400 GI/EMME 2000	- 3010128	(2)	
	3970147	CBF 65/1	GI/EMME 1400 GI/EMME 2000 GI/EMME 3000 GI/EMME 4500	3000825 3000831 3000831 3000831	GI/EMME 2000 GI/EMME 3000 GI/EMME 4500	3000831 3000831 3000831	(1)	
	3970161	CBF 65/1 CT	GI/EMME 1400 GI/EMME 2000 GI/EMME 3000 GI/EMME 4500	3000825 3000831 3000831 3000831	GI/EMME 2000 GI/EMME 3000 GI/EMME 4500	3000831 3000831 3000831	(2)	
	3970148	CBF 80/1	GI/EMME 1400 GI/EMME 2000 GI/EMME 3000 GI/EMME 4500	3000826 3000832 3000832 3000832			(1)	
	3970162	CBF 80/1 CT	GI/EMME 1400 GI/EMME 2000 GI/EMME 3000 GI/EMME 4500	3000826 3000832 3000832 3000832			(2)	
	3970149	CBF 100/1	GI/EMME 2000 GI/EMME 3000 GI/EMME 4500	3010127 3010127 3010127			(1)	
	3970163	CBF 100/1 CT	GI/EMME 2000 GI/EMME 3000 GI/EMME 4500	3010127 3010127 3010127			(2)	

* Gas train are 230V/50Hz - 220V/60Hz electrical supply.

** The adapter price is available in the "Gas train accessories" section.

(1) Seal control accessory.

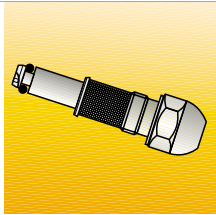
(2) Seal control incorporated.

The following table shows the frequently matching between GI/EMME burners and the gas train, referred to different inlet gas pressure.

Burner	Reference combustion chamber pressure (mbar)	Natural gas G20 (20 mbar)		Natural gas G20 (300 mbar)		LPG (35 mbar)		LPG (150 mbar)	
		Gas train	Reference output (kW)	Gas train	Reference output (kW)	Gas train	Reference output (kW)	Gas train	Reference output (kW)
GI/EMME 1400	6,7	-	-	MBD 420 CB 50/1	1300	-	-	MBD 420 CB 50/1	1300
GI/EMME 2000	5,3	-	-	MBD 420 CB 50/1	1940	-	-	MBD 420 CB 50/1	1940
GI/EMME 3000	12	-	-	CBF 65/1	2900	-	-	CBF 65/1	2900
GI/EMME 4500	10	-	-	CBF 65/1	3880	-	-	CBF 65/1	3880

GI/EMME series - BURNER ACCESSORIES

Nozzles type B3-SA 45°

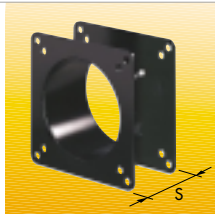


The nozzles must be ordered separately. The following table shows the features and codes on the basis of the maximum required fuel output.

NOTE: each burner needs N° 1 nozzle.

Burner	Rated delivery (kg/h) at 25 bar	Nozzle code	Price
GI/EMME 1400	70	3009713	
GI/EMME 1400	80	3009715	
GI/EMME 1400	90	3009717	
GI/EMME 1400 - 2000	100	3009720	
GI/EMME 1400 - 2000	125	3009723	
GI/EMME 2000 - 3000	150	3009726	
GI/EMME 2000 - 3000	175	3009729	
GI/EMME 2000 - 3000 - 4500	200	3009732	
GI/EMME 3000 - 4500	225	3009735	
GI/EMME 3000 - 4500	250	3009738	
GI/EMME 3000 - 4500	275	3009741	
GI/EMME 3000 - 4500	300	3009744	
GI/EMME 4500	325	3009747	
GI/EMME 4500	350	3009750	
GI/EMME 4500	375	3009753	
GI/EMME 4500	400	3009756	

Spacer kit



If burner head penetration into the combustion chamber needs reducing, varying thickness spacers are available, as given in the following list:

Burner	Spacer thickness S (mm)	Kit code	Price
GI/EMME 1400 - 2000	110	3000722	
GI/EMME 3000 - 4500	130	3000751	

Sound proofing box



If noise emission needs reducing even further, sound-proofing boxes are available.

Burner	Box type	Box code	Price
GI/EMME 1400 - 2000	C7	3010048	
GI/EMME 3000 - 4500	C8	3010049	

Accessories for modulating operation



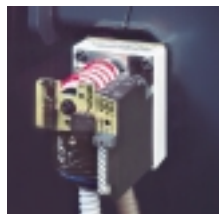
To obtain modulating setting, the GI/EMME series of burners requires a regulator.

Burner	Regulator type	Regulator code	Price
GI/EMME 1400 - 2000 - 3000 - 4500	RWF 40	3010211	



The relative temperature or pressure probes fitted to the regulator, must be chosen on the basis of the application.

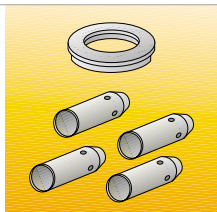
Probe type	Range (°C) (bar)	Code	Price
Temperature PT 100	-100 ÷ 500°C	3010110	
Pressure 4 ÷ 20 mA	0 ÷ 2,5 bar	3010213	
Pressure 4 ÷ 20 mA	0 ÷ 16 bar	3010214	



Depending on the servomotor fitted to the burner, a three-pole potentiometer (1000 Ω) can be installed to check the position of the servomotor.

Burner	Potentiometer kit code	Price
GI/EMME 1400 - 2000 - 3000 - 4500	3010021	

LPG kit

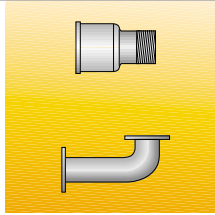


For burning LPG gas, a special kit is available to be fitted to the combustion head on the burner, as given in the following table.

Burner	Kit code for standard head	Kit code for extended head	Price
GI/EMME 1400 - 2000	3010063	3010063	

GI/EMME series - GAS TRAIN ACCESSORIES

Adapters



When the diameter of the gas train is different from the set diameter of the burners, an adapter must be fitted between the gas train and the burner.

Burner	Gas train	Dimensions	Adapter code	Price
GI/EMME 1400	CBF 65/1	DN 65 2" 1/2	1" 1/2 2"	3000825
	CBF 80/1	DN 80 2" 1/2	2"	3000826
GI/EMME 2000	MBD 420 CB 50/1	DN 80 DN 65	2" 1/2 2"	3010128
	CBF 65/1	DN 65	DN 80	3000831
	CBF 80/1	DN 80	DN 80	3000832
	CBF 100/1	DN 100	DN 80	3010127
GI/EMME 3000	CBF 65/1	DN 65	DN 80	3000831
	CBF 80/1	DN 80	DN 80	3000832
	CBF 100/1	DN 100	DN 80	3010127
GI/EMME 4500	CBF 65/1	DN 65	DN 80	3000831
	CBF 80/1	DN 80	DN 80	3000832
	CBF 100/1	DN 100	DN 80	3010127

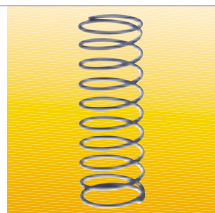
Seal control kit



To test the valve seals on the gas train, a special "seal control kit" is available.

Burner	Gas train	Kit code	Price
GI/EMME 1400	MBD 420 - CB 50/1 - CBF 65/1 - CBF 80/1	3010123	
GI/EMME 2000	MBD 420 - CB 50/1 - CBF 65/1 - CBF 80/1- CBF 100/1	3010123	
GI/EMME 3000	CBF 65/1 - CBF 80/1- CBF 100/1	3010123	
GI/EMME 4500	CBF 65/1 - CBF 80/1- CBF 100/1	3010123	

Stabiliser spring



Accessory springs are available to vary the pressure range of the gas train stabilisers.

Gas train	Spring	Spring code	Price
CBF 65/1 - CBF 80/1	Red from 25 to 55 mbar	3010133	
CBF 100/1	Red from 25 to 55 mbar	3010134	
CBF 65/1 - CBF 80/1	Black from 60 to 110 mbar	3010135	
CBF 100/1	Black from 60 to 110 mbar	3010136	
CBF 65/1 - CBF 80/1	Pink from 100 to 150 mbar	3090456	
CBF 100/1	Pink from 100 to 150 mbar	3090489	