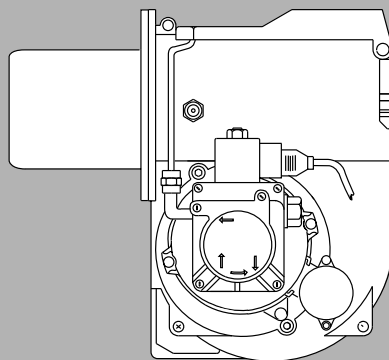


BRUCIATORI DI GASOLIO  
OIL BURNERS  
BRULEURS A MAZOUT  
QUEMADOR DE GASOLEO

 **Ecoflam**



**ISO 9001**  
registered by  
**GASTEC**



**MINOR 4.1 / 4.1 R**  
**MINOR 8.1 / 8.1 R**  
**MINOR 12.1 / 12.1 R**

230 Volt 50 Hz

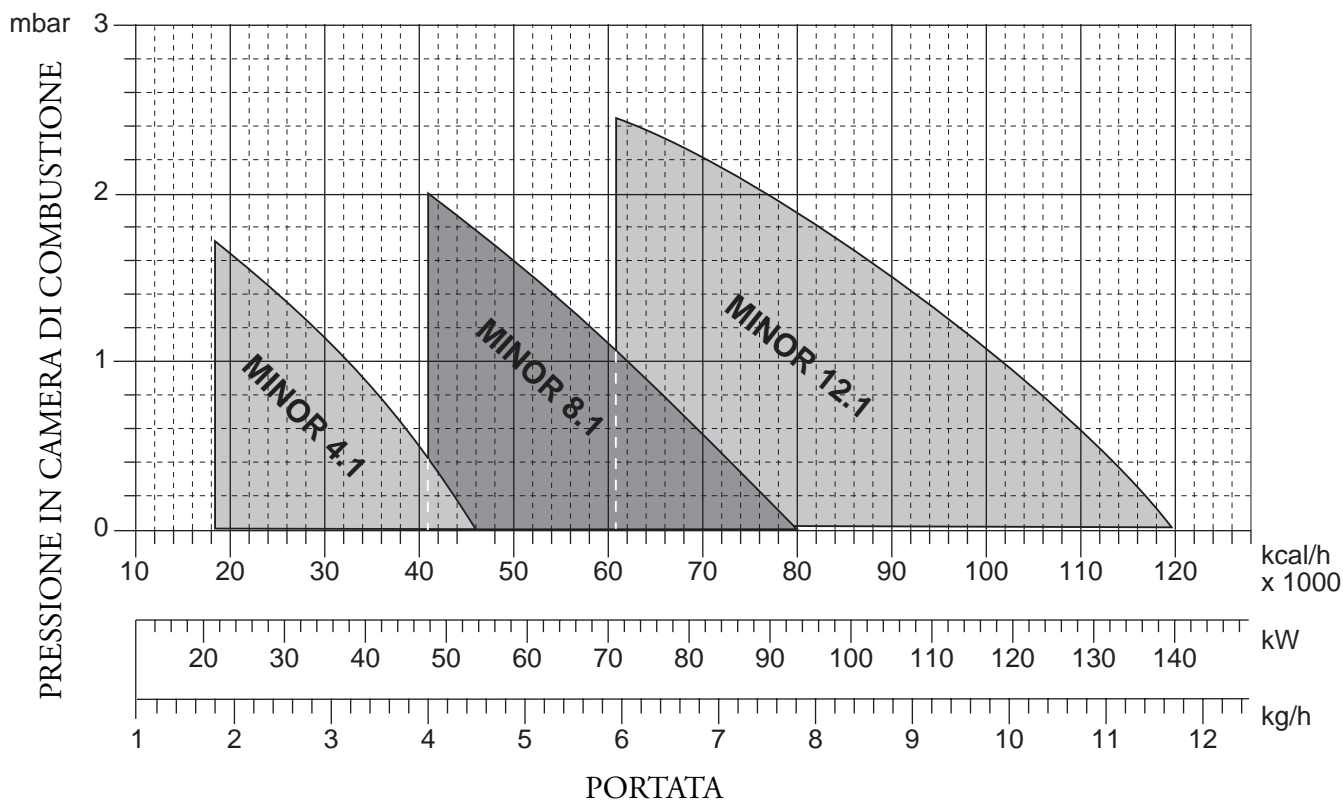


**LB 752**

**08.05.2003**

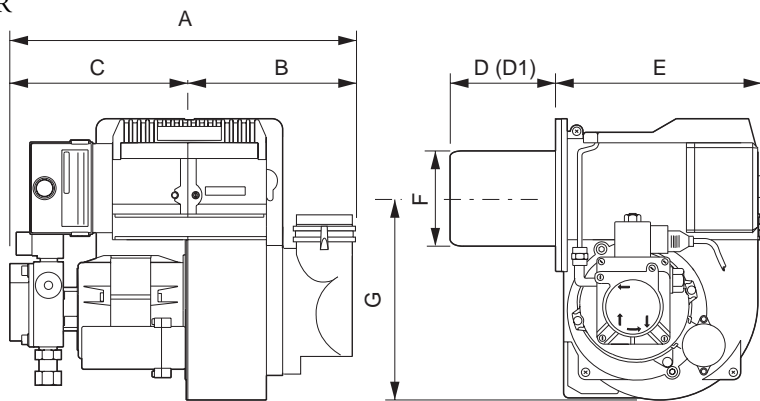
**CARATTERISTICHE TECNICHE**

MODELLO		MINOR 4.1/ R	MINOR 8.1/ R	MINOR 12.1/ R
Portata termica max.	kcal/h	45.900	81.600	122.400
	kW	53,4	94,9	142,3
Portata termica min.	kcal/h	18.330	40.800	61.200
	kW	21,3	47,4	71
Max. portata gasolio	kg/h	4,5	8	12
Min. portata gasolio	kg/h	1,8	4	6
Tensione alimentazione 50 Hz	V	230	230	230
Potenza motore	W	75	100	130
Giri -minuto	N°	2.800	2.800	2.800
Trasformatore accensione (Cofi)	kV/mA	8/20	8/20	8/20
	(Danf./Land.) kV/mA	15/40	15/40	15/40
Apparecchiatura di controllo fiamma	LANDIS	LOA 24	LOA 24	LOA 24
Combustibile : gasolio	kcal/kg	10.200 max. visc 1,5°E a 20°C		

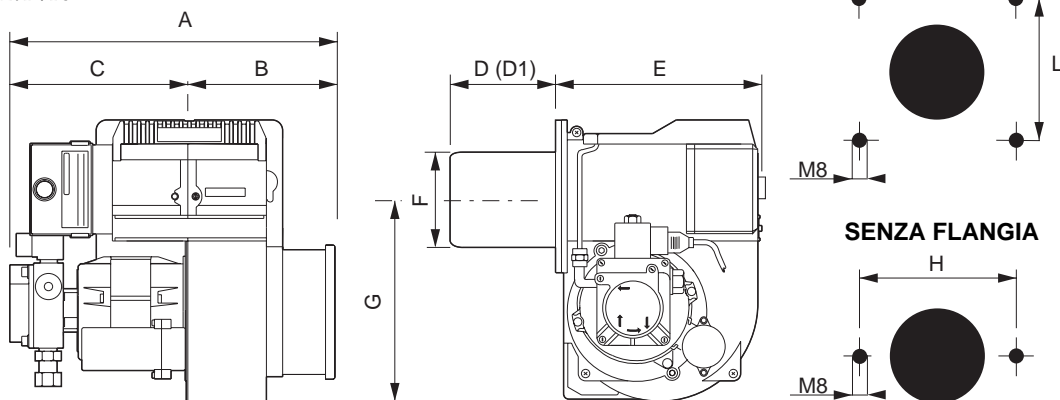
**CURVE DI LAVORO**


**DIMENSIONI DI INGOMBRO**

MINOR 4.1 /R



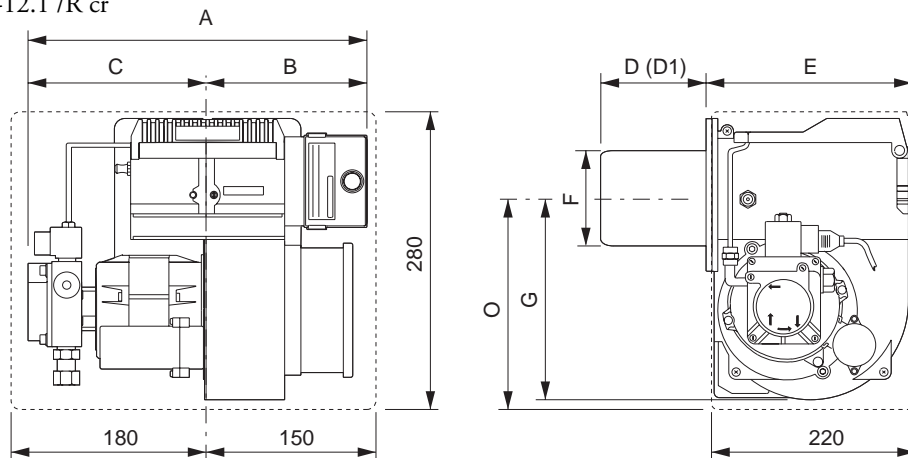
MINOR 8.1-12.1 /R



MODELLO	A	B	C	D	D1	E	F	G	H	I	L	M
MINOR 4.1 /R	340	165	175	75	130	205	89	195	153	110	110	M8
MINOR 8.1 /R	320	145	175	75	130	205	89	195	153	110	110	M8
MINOR 12.1 /R	320	145	175	95	150	205	89	195	153	110	110	M8

D = testa corta D1 = testa lunga

MINOR 4.1-8.1-12.1 /R cr

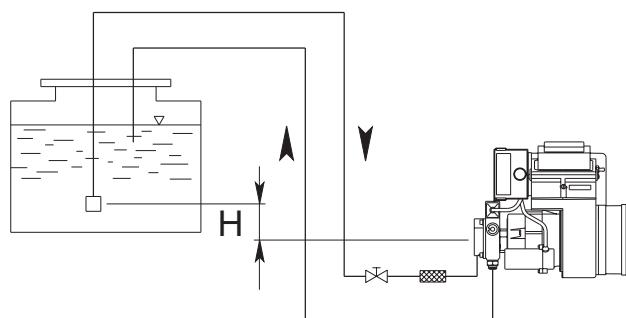


MODELLO	A	B	C	D	D1	E	F	G	H	I	L	M	O
MINOR 4.1 /R cr	320	145	175	75	130	205	89	195	153	110	110	M8	205
MINOR 8.1 /R cr	320	145	175	75	130	205	89	195	153	110	110	M8	205
MINOR 12.1 /R cr	320	145	175	95	150	205	89	195	153	110	110	M8	205

D = testa corta D1 = testa lunga

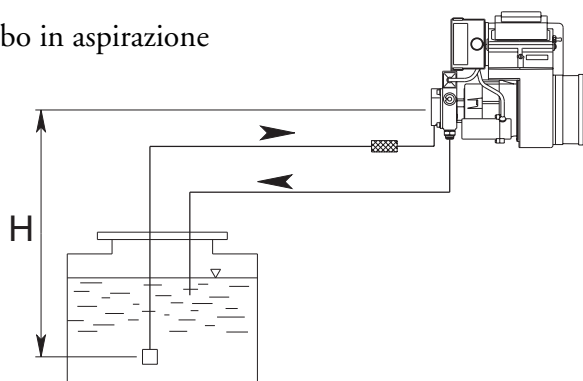
### ALIMENTAZIONE COMBUSTIBILE

Bitubo dalla sommità del serbatoio



H (m)	Lunghezza tubazioni (m)	
	ø 8 mm	ø 10 mm
0,5	30	65
1	35	70
1,5	40	75
2	45	80
2,5	50	85
3	55	90
3,5	60	95

Bitubo in aspirazione



H (m)	Lunghezza tubazioni (m)	
	ø 8 mm	ø 10 mm
0,5	23	55
1	21	50
1,5	19	45
2	17	40
2,5	14	34
3	9	28
3,5	4	22

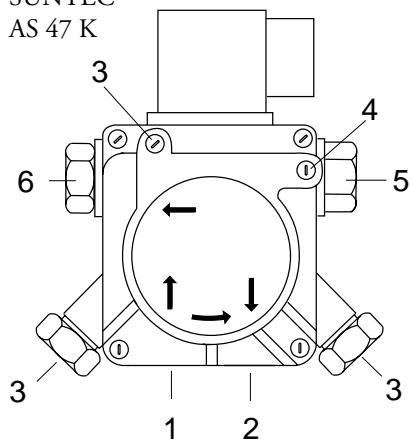
### DATI DI TARATURA

	UGELLO		POMPA BAR	PORTATA		REGOLAZIONE TESTA		REGOLAZIONE ARIA	
	GPH	SPRY		normale	riscaldato	normale	riscaldato	normale	riscaldato
				kg/h	kg/h	Pos.	Pos.	Pos.	Pos.
MINOR 4.1 / R	0.40	80°H	12	1,7	-	0	-	1,5	-
	0.50	80°S	12	2	1,82	1	0	3	1,5
	0.60	80°S	12	2,4	1,92	2	1	4	3
	0.65	60°S	12	2,7	2,4	2	2	4,2	4
	0.75	60°S	12	3,1	2,7	3	2	4,6	4,2
	0.85	60°S	12	3,5	3,1	4	3	6	4,6
	1.00	60°S	12	4,35	4,1	6	4	9	6
MINOR 8.1 / R	1.00	60°S	12	4,35	4,1	0	0	1	1
	1.10	60°S	12	4,5	4,3	1	0	2,5	2
	1.25	60°S	12	5	4,7	2	1	3,5	3
	1.35	60°S	12	5,6	5,3	3	2	5	4
	1.50	60°S	12	6,2	5,9	4	3	6	5,5
	1.65	60°S	12	7	6,8	5	4,5	8	7
	1.75	60°S	12	7,6	7,3	6	5,5	9	8,5
MINOR 12.1 / R	1.50	60°S	12	6,2	-	0	-	1	-
	1.65	60°S	12	7	-	1	-	2	-
	1.75	60°S	12	7,6	-	2	-	2,8	-
	2.00	60°S	12	8,3	-	3	-	3,4	-
	2.25	60°S	12	9,3	-	3	-	5	-
	2.50	60°S	12	10,4	-	4	-	7	-
	2.75	60°S	12	11,5	-	6	-	9	-

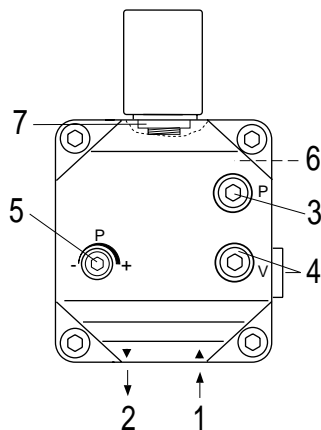
UGELLO : DANFOSS H:S 80°÷60°; DELAVAN W 60°; STEINEN S 60°

## INNESCO E REGOLAZIONE DELLA POMPA GASOLIO

SUNTEC  
AS 47 K



DANFOSS BFP 21 R3



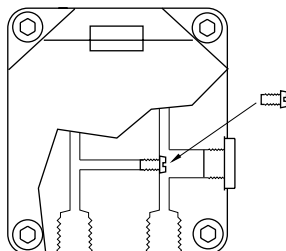
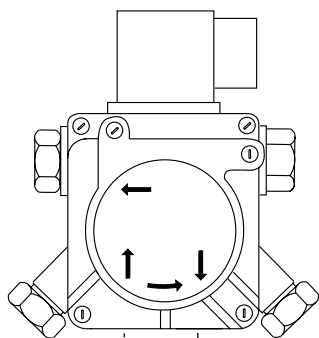
- 1 - ASPIRAZIONE
- 2 - RITORNO
- 3 - SFIATO E PRESA MANOMETRO
- 4 - PRESA VUOTOMETRO
- 5 - REGOLAZIONE PRESSIONE
- 6 - ALL' UGELLO
- 7 - CARTUCCIA FILTRO

### CONTROLLARE:

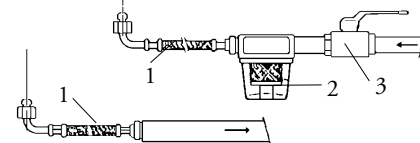
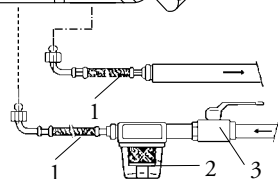
- Che le tubazioni siano perfettamente a tenuta;
- Che siano usati tubi rigidi (preferibilmente di rame), ove possibile;
- Che la depressione in aspirazione non ecceda 0,45 bar, per evitare che la pompa entri in cavitazione;

- Che la valvola di fondo sia dimensionata correttamente;

La pressione della pompa viene regolata al valore di 12 bar durante il collaudo del bruciatore. Prima di avviare il bruciatore, spurgare l'aria contenuta nella pompa attraverso la presa del manometro. Riempire le tubazioni di gasolio per facilitare l'innescò della pompa. Avviare il bruciatore e verificare la pressione di alimentazione della pompa. Se l'innescò della pompa non dovesse avvenire durante il primo prelavaggio, con conseguente, successiva entrata in blocco del bruciatore, riarmarne il blocco per riavviarlo, premendo il pulsante rosso sull'apparecchiatura di controllo. Se, ad innescò della pompa avvenuto, il bruciatore dovesse andare in blocco dopo la fase di prelavaggio, a causa di una caduta di pressione del gasolio nella pompa, riarmarne il blocco per riavviarlo. Non permettere che la pompa funzioni per più di tre minuti senza gasolio. Nota: prima di avviare il bruciatore, assicurarsi che il tubo di ritorno sia aperto. Una sua eventuale occlusione provocherebbe una rottura dell'organo di tenuta della pompa.

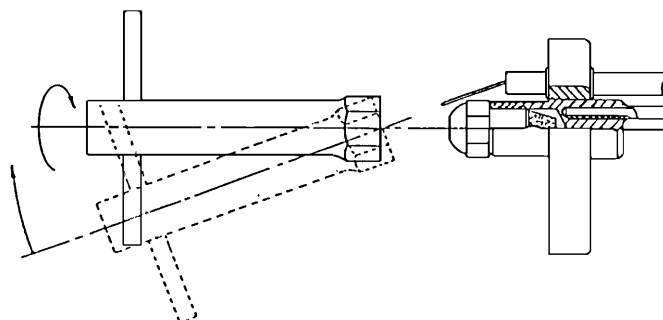
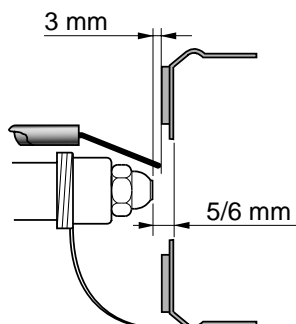
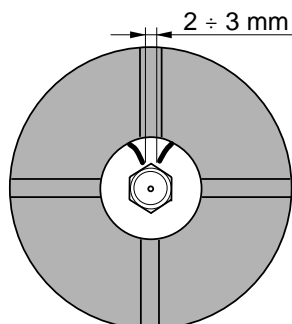


- 1 - FLESSIBILI
- 2 - FILTRO
- 3 - RUBINETTO DI INTERCETTAZIONE



### PULIZIA E SOSTITUZIONE DELL'UGELLO

Utilizzare solo la apposita chiave fornita in dotazione pre rimuovere l'ugello, facendo attenzione a non danneggiare gli elettrodi. Montare il nuovo ugello con la medesima cura. N.B.: Verificare sempre la posizione degli elettrodi dopo il montaggio dell'ugello (vedi figura). Una posizione errata può comportare problemi di accensione.



## AVVIAMENTO E REGOLAZIONE DEL BRUCIATORE

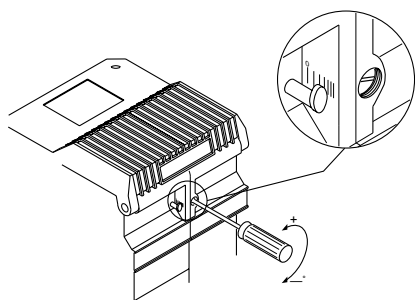
Dopo aver eseguito l'installazione del bruciatore, verificare i seguenti punti:

- Tensione di alimentazione del bruciatore ed i fusibili di protezione di rete.
- I collegamenti del motore.
- La corretta lunghezza delle tubazioni e la loro tenuta.
- Il tipo di combustibile, che deve essere adatto al bruciatore.
- Il collegamento dei termostati caldaia e delle varie sicurezze.
- Il senso di rotazione del motore.
- La corretta taratura della protezione termica del motore.

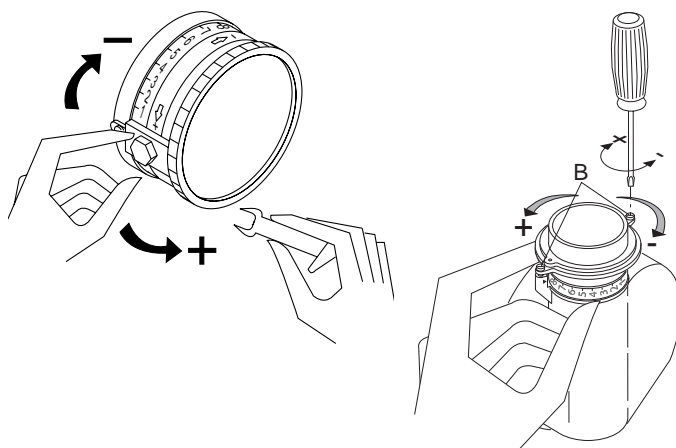
Quando tutte queste condizioni sono verificate e soddisfatte, si può procedere con il collaudo del bruciatore.

Dare tensione al bruciatore. L'apparecchiatura di controllo alimenterà, allo stesso tempo, sia il trasformatore di accensione che il motore del bruciatore, che provvederà ad effettuare un prelavaggio della camera di combustione per un periodo di 13 secondi circa (20 secondi con apparecchiatura Brahma). Al termine del prelavaggio, l'apparecchiatura di controllo apre l'elettrovalvola della pompa gasolio, il trasformatore d'accensione produce una scintilla ed il bruciatore si accende. Dopo l'intervallo di sicurezza di 5 secondi, ad accensione avvenuta, l'apparecchiatura di controllo disinserisce il trasformatore di accensione. In caso di accensione difettosa, l'apparecchiatura di controllo causa il blocco del bruciatore entro 10 secondi. In questo caso, il riarmo manuale del bruciatore non potrà avvenire prima che siano trascorsi 30 secondi dall'entrata in blocco. La pressione di alimentazione della pompa gasolio dovrà aggirarsi sui 12 bar. Nota: Nella versione con preriscaldatore, il bruciatore effettua un preriscaldamento della testa di combustione per circa un minuto. In questo caso, alla chiusura dei termostati caldaia, il consenso all'accensione del bruciatore verrà dato dal termostato montato sul preriscaldatore stesso.

### REGOLAZIONE TESTA DI COMBUSTIONE

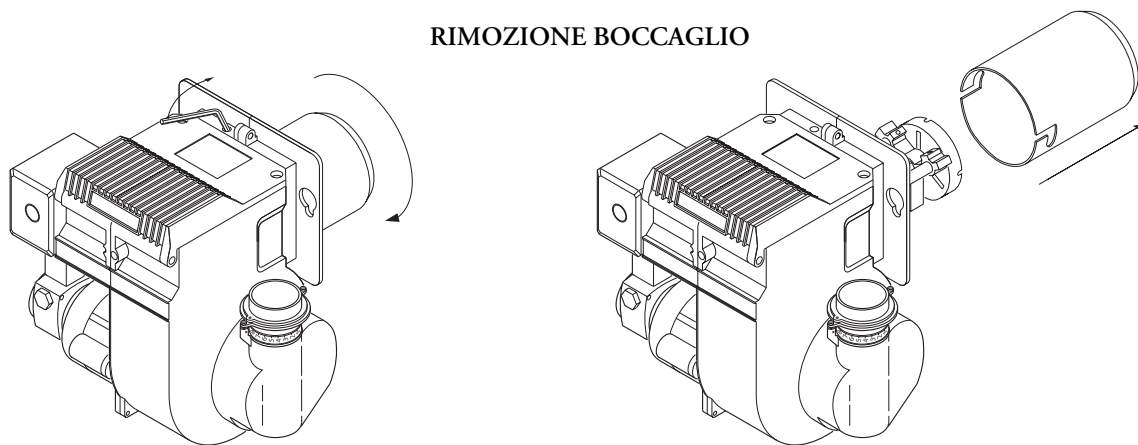


### REGOLAZIONE ARIA



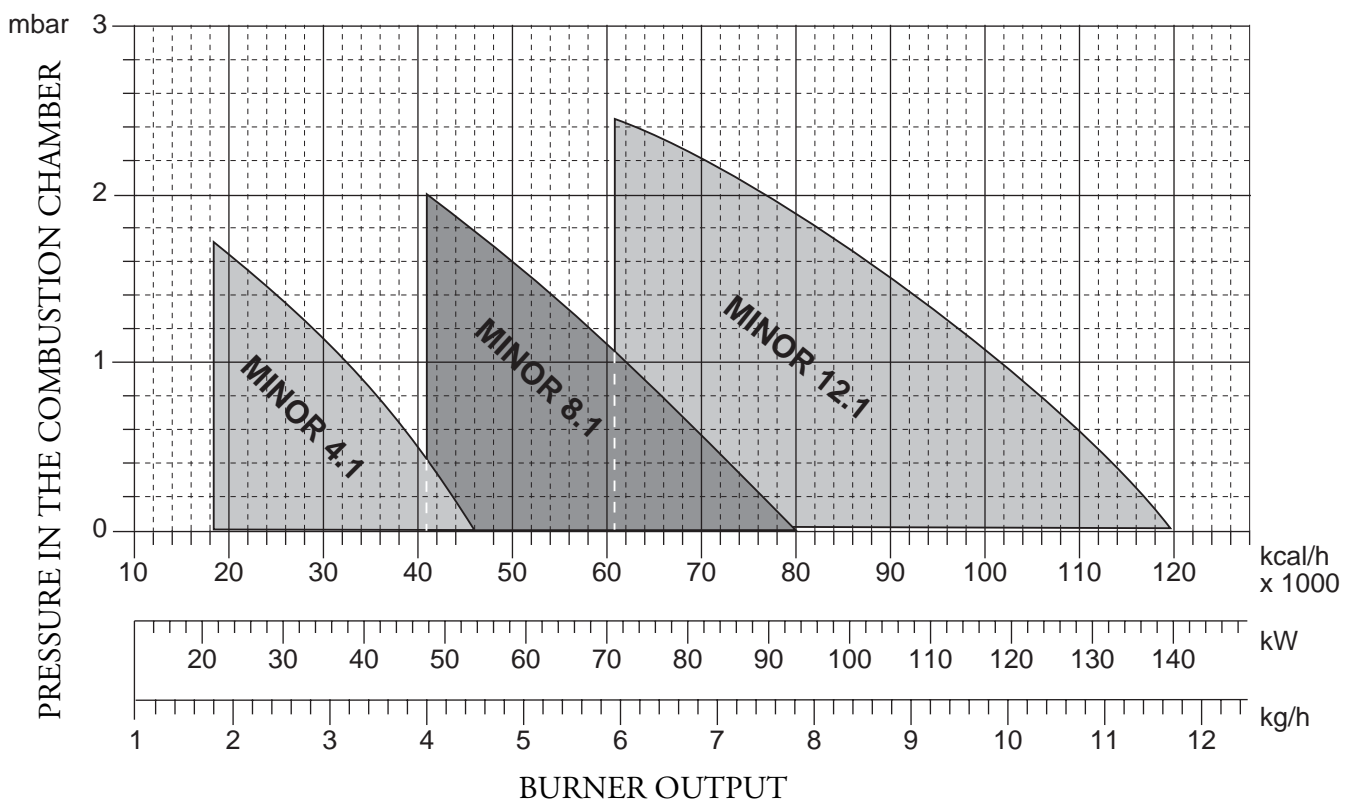
Per regolare la portata d'aria, allentare le viti B e girare il registro secondo le necessità. Girando in senso antiorario la portata aumenta; in senso orario diminuisce. Fissare le viti B.

### RIMOZIONE BOCCAGLIO



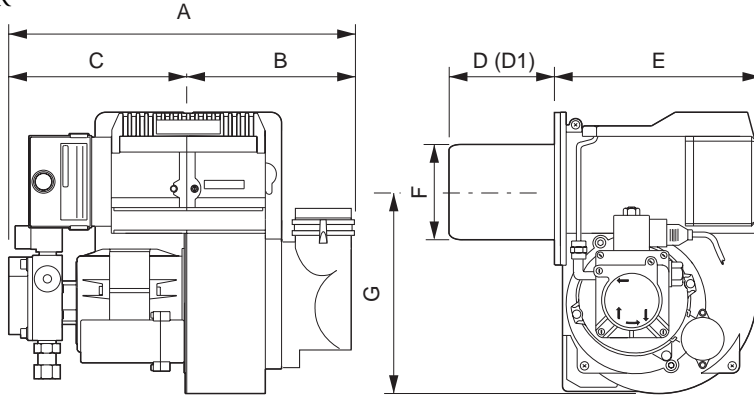
**TECHNICAL DATA**

MODELS		MINOR 4.1/ R	MINOR 8.1/ R	MINOR 12.1/ R
Thermal power max.	kcal/h	45.900	81.600	122.400
	kW	53,4	94,9	142,3
Thermal power min.	kcal/h	18.330	40.800	61.200
	kW	21,3	47,4	71
Max. flow rate light oil	kg/h	4,5	8	12
Min. flow rate light oil	kg/h	1,8	4	6
Feeding power 50 Hz	V	230	230	230
Motor	W	75	100	130
Rpm	N°	2.800	2.800	2.800
Ignition transformer	(Cofi) kV/mA	8/20	8/20	8/20
	(Danf./Land.) kV/mA	15/40	15/40	15/40
Control box	LANDIS	LOA 24	LOA 24	LOA 24
Fuel : light oil	kcal/kg	10.200 max. visc 1,5°E a 20°C		

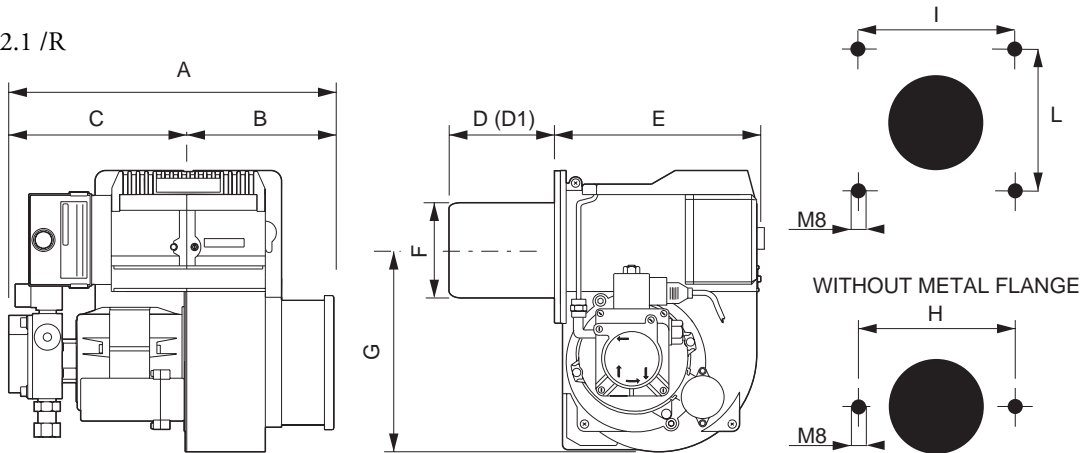
**WORKING FIELDS**


OVERALL DIMENSIONS

MINOR 4.1 /R



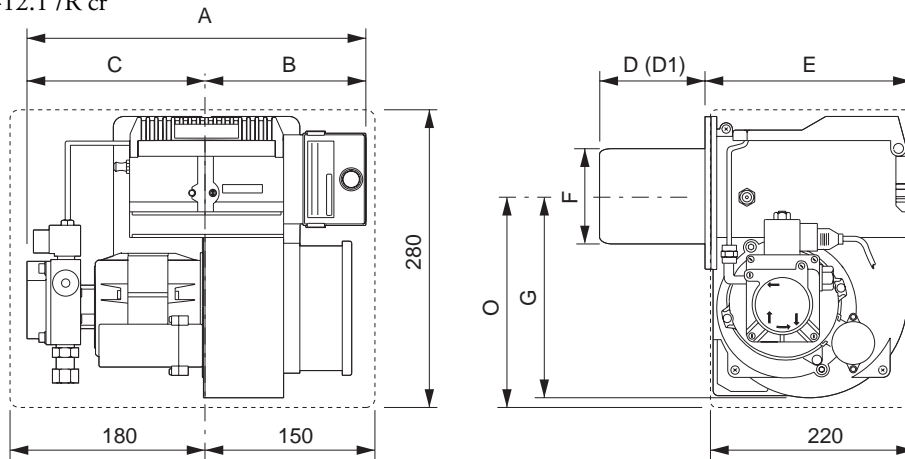
MINOR 8.1-12.1 /R



MODELS	A	B	C	D	D1	E	F	G	H	I	L	M
MINOR 4.1 /R	340	165	175	75	130	205	89	195	153	110	110	M8
MINOR 8.1 /R	320	145	175	75	130	205	89	195	153	110	110	M8
MINOR 12.1 /R	320	145	175	95	150	205	89	195	153	110	110	M8

D = short head D1 = long head

MINOR 4.1-8.1-12.1 /R cr



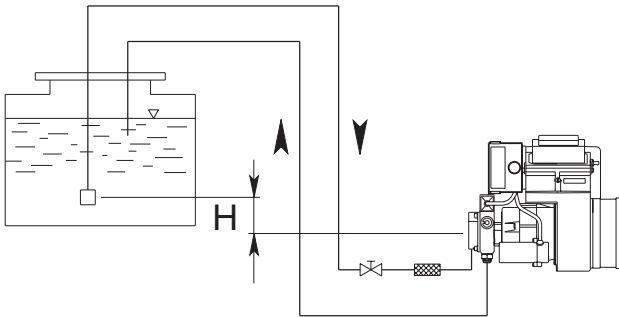
MODELS	A	B	C	D	D1	E	F	G	H	I	L	M	O
MINOR 4.1 /R cr	320	145	175	75	130	205	89	195	153	110	110	M8	205
MINOR 8.1 /R cr	320	145	175	75	130	205	89	195	153	110	110	M8	205
MINOR 12.1 /R cr	320	145	175	95	150	205	89	195	153	110	110	M8	205

D = short head D1 = long head



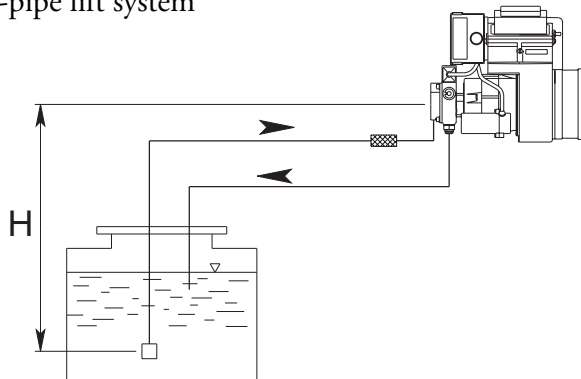
**MAXIMUM LENGTHS OF SUCTION LINES FOR TWO-PIPE SYSTEM**

Two-pipe siphon feed system



H (m)	Length pipe (m)	
	ø 8 mm	ø 10 mm
0,5	30	65
1	35	70
1,5	40	75
2	45	80
2,5	50	85
3	55	90
3,5	60	95

Two-pipe lift system



H (m)	Length pipe (m)	
	ø 8 mm	ø 10 mm
0,5	23	55
1	21	50
1,5	19	45
2	17	40
2,5	14	34
3	9	28
3,5	4	22

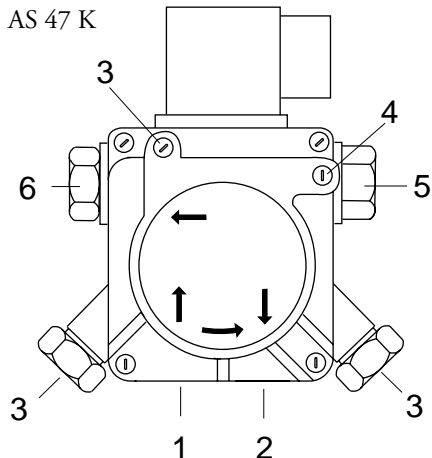
**ADJUSTMENT DATA**

	NOZZLE		PUMP	OUTPUT		FIRING HEAD SETTING		AIR DAMPER ADJUSTMENT	
	gph	spry		normal	pre-heater	normal	pre-heater	normal	pre-heater
			bar	kg/h	kg/h	Pos.	Pos.	Pos.	Pos.
MINOR 4.1 / R	0.40	80°H	12	1,7	-	0	-	1,5	-
	0.50	80°S	12	2	1,82	1	0	3	1,5
	0.60	80°S	12	2,4	1,92	2	1	4	3
	0.65	60°S	12	2,7	2,4	2	2	4,2	4
	0.75	60°S	12	3,1	2,7	3	2	4,6	4,2
	0.85	60°S	12	3,5	3,1	4	3	6	4,6
	1.00	60°S	12	4,35	4,1	6	4	9	6
MINOR 8.1 / R	1.00	60°S	12	4,35	4,1	0	0	1	1
	1.10	60°S	12	4,5	4,3	1	0	2,5	2
	1.25	60°S	12	5	4,7	2	1	3,5	3
	1.35	60°S	12	5,6	5,3	3	2	5	4
	1.50	60°S	12	6,2	5,9	4	3	6	5,5
	1.65	60°S	12	7	6,8	5	4,5	8	7
MINOR 12.1 / R	1.75	60°S	12	7,6	7,3	6	5,5	9	8,5
	1.50	60°S	12	6,2	-	0	-	1	-
	1.65	60°S	12	7	-	1	-	2	-
	1.75	60°S	12	7,6	-	2	-	2,8	-
	2.00	60°S	12	8,3	-	3	-	3,4	-
	2.25	60°S	12	9,3	-	3	-	5	-
	2.50	60°S	12	10,4	-	4	-	7	-
2.75	60°S	12	11,5	-	6	-	9	-	

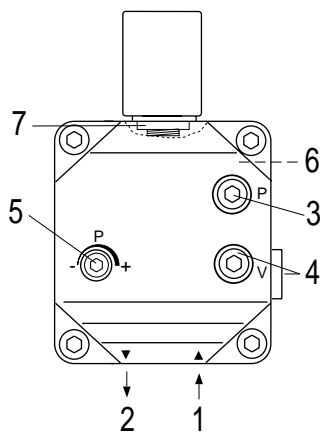
NOZZLE : DANFOSS H:S 80°÷60°; DELAVAN W 60°; STEINEN S 60°

### PRIMING AND ADJUSTMENT OF OIL PUMP

SUNTEC  
AS 47 K



DANFOSS BFP 21 R3



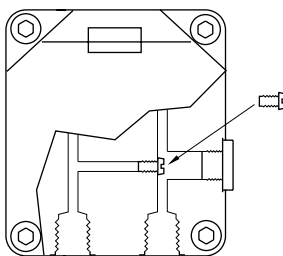
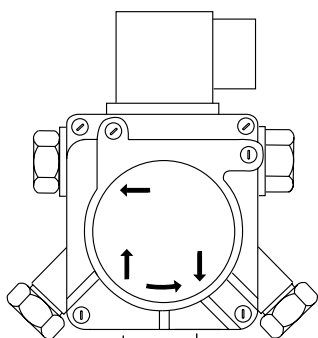
- 1 - INLET
- 2 - RETURN
- 3 - BLEED AND PRESSURE GAUGE PORT
- 4 - VACUUM GAUGE PORT
- 5 - PRESSURE ADJUSTMENT
- 6 - TO NOZZLE
- 7 - CARTRIDGE FILTER

**VERIFY:**

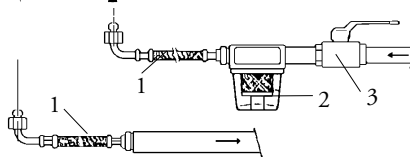
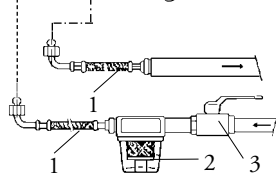
- That piping system is perfectly sealed;
- That the use of hoses is avoided whenever is possible (use copper pipes preferably);
- That depression is not greater than 0,45 bar, to avoid pump's cavitation;

- That check valve is suitably designed for the duty;

The pump pressure is set at a value of 12 bar during the testing of burners. Before starting the burner, bleed the air in the pump through the gauge port. Fill the piping with light-oil to facilitate the pump priming. Start the burner and check the pump feeding pressure. In case the pump priming does not take place during the first prepurging, with a consequent, subsequent lock-out of the burner, rearm the burner's lock-out to restart, by pushing the button on the control box. If, after a successful pump priming, the burner locks-out after the prepurging, due to a fuel pressure drop in the pump, rearm the burner's lock-out to restart the burner. Do never allow the pump working without oil for more than three minutes. Note: before starting the burner, check that the return pipe is open. An eventual obstruction could damage the pump sealing device.

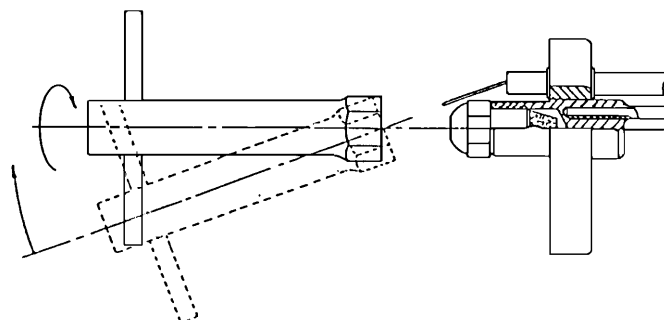
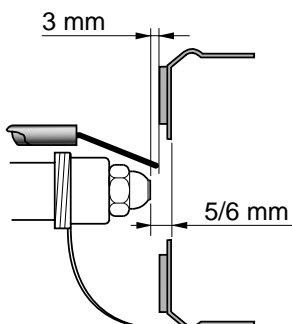
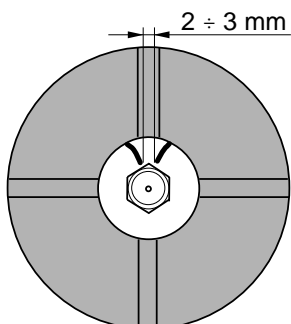


- 1 - HOSE
- 2 - OIL FILTER
- 3 - OIL COCK



### NOZZLE CLEANING AND REPLACEMENT

Use only the suitable box wrench provided for this operation to remove the nozzle, taking care to not damage the electrodes. Fit the new nozzle by the same care. Note: Always check the position of electrodes after having replaced the nozzle (see illustration). A wrong position could cause ignition troubles.



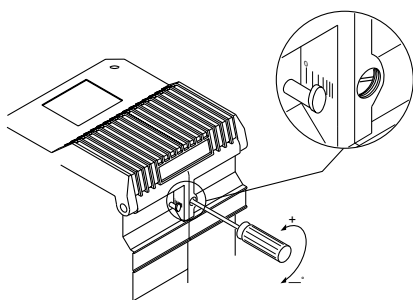
## BURNER START-UP AND ADJUSTMENT

Once having installed the burner, check the following items:

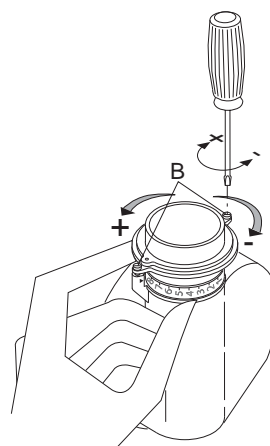
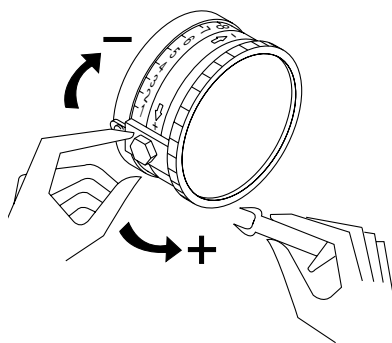
- The burner power feeding and the main line protection fuses
- The correct length of pipes and that same are sealed.
- The type of fuel, which must be suitable for burner.
- The connection of boiler's thermostats and all safeties.
- The motor direction of rotation.
- The correct calibration of the motor's thermal protection.

When all said conditions are checked and accomplished, it is possible to go on with burner's tests. Power the burner. The control box feeds at the same time the ignition transformer and the burner's motor, which will run a pre-purging of the combustion chamber for about 13 seconds (20 seconds with Brahma control box). At the end of pre-purging, the control box opens the fuel pump solenoid valve, the ignition transformer produces a spark and the burner ignites. After a safety interval of 5 seconds and a correct ignition, the control box turns off the ignition transformer. In case of faulty ignition, the control box switches the burner into safety condition within 10 secs. In such a case, the manual rearming of the burner shall not take place before 30 seconds are elapsed from the burner's safety shutdown. The fuel pump feeding pressure, must keep around 12 bar. Note: With preheated version, the burner runs a preheating of the combustion head for about 1 minute. In such a case, at the boiler's thermostats make, the ignition signal shall be done by the thermostat mounted on the preheater itself.

### FIRING HEAD SETTING

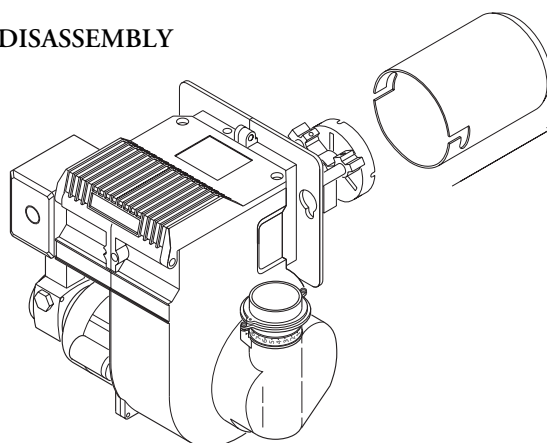
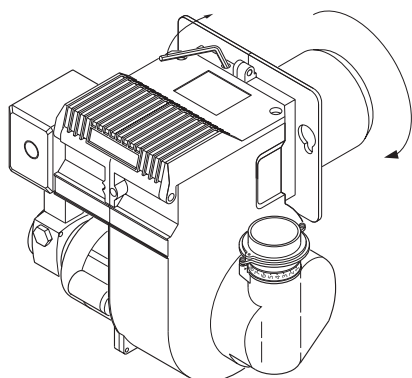


### AIR REGULATION



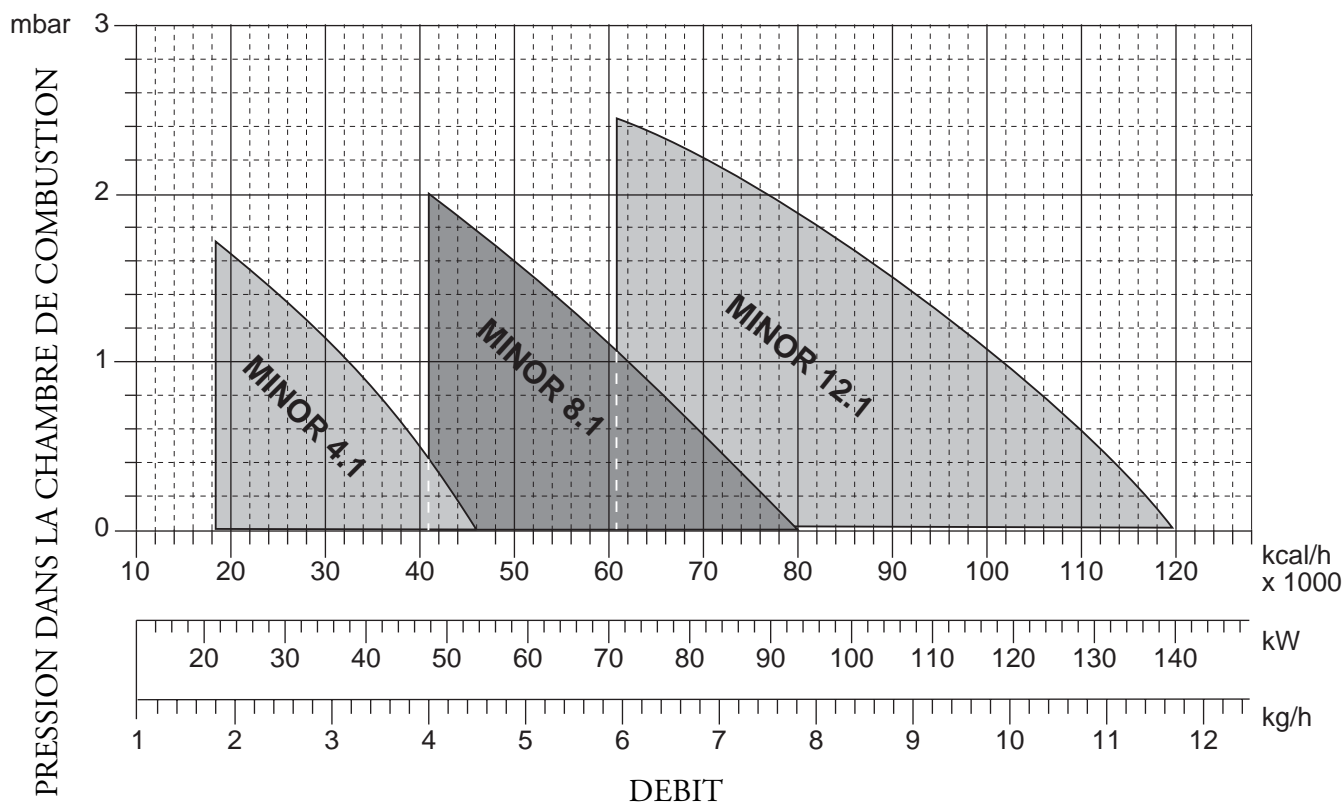
To adjust air flow, loosen the two screw B and turn the air damper as required. Tighten the screw B.

### BLAST TUBE DISASSEMBLY



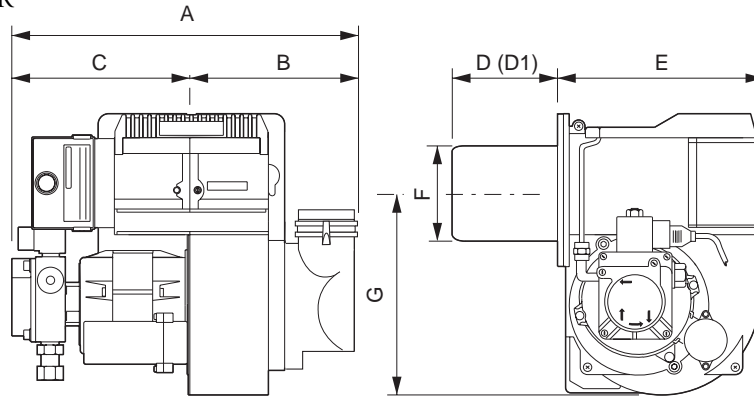
**CARACTERISTIQUES TECHNIQUES**

MODELES		MINOR 4.1/ R	MINOR 8.1/ R	MINOR 12.1/ R
Puissance thermique max.	kcal/h	45.900	81.600	122.400
	kW	53,4	94,9	142,3
Puissance thermique min	kcal/h	18.330	40.800	61.200
	kW	21,3	47,4	71
Débit max.	kg/h	4,5	8	12
Débit min	kg/h	1,8	4	6
Tension d'alimentation 50 Hz	V	230	230	230
Moteur	W	75	100	130
Tours par minute	N°	2.800	2.800	2.800
Transformateur	(Cofi) kV/mA	8/20	8/20	8/20
	(Danf./Land.) kV/mA	15/40	15/40	15/40
Coffret de sécurité	LANDIS	LOA 24	LOA 24	LOA 24
Combustible: mazout	kcal/kg	10.200 max. visc 1,5°E a 20°C		

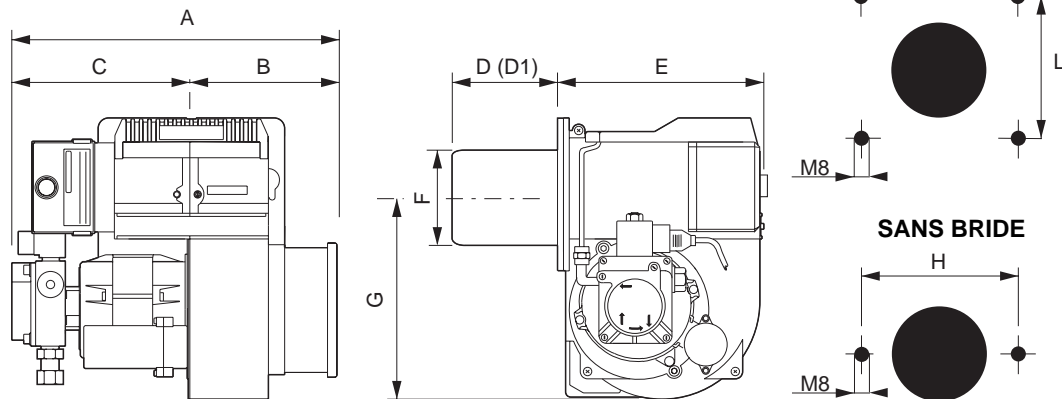
**COURBE DE TRAVAIL**


**DIMENSIONS D'ENCOMBREMENT**

MINOR 4.1 /R



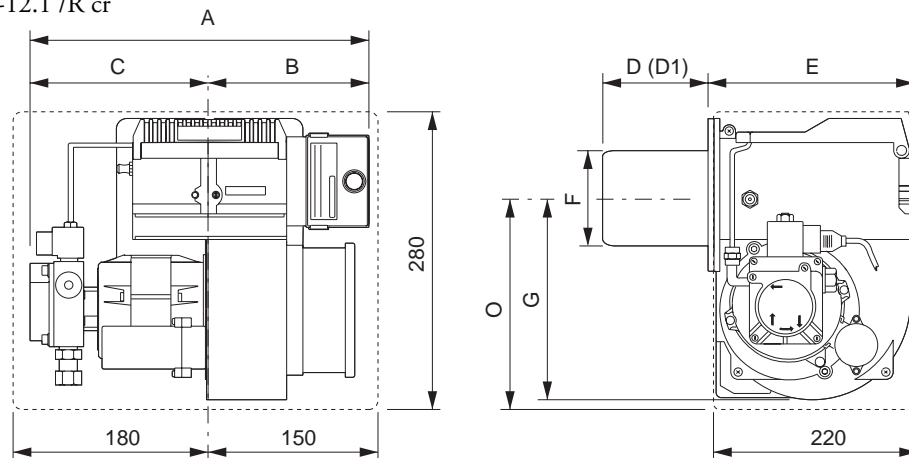
MINOR 8.1-12.1 /R



MODELE	A	B	C	D	D1	E	F	G	H	I	L	M
MINOR 4.1 /R	340	165	175	75	130	205	89	195	153	110	110	M8
MINOR 8.1 /R	320	145	175	75	130	205	89	195	153	110	110	M8
MINOR 12.1 /R	320	145	175	95	150	205	89	195	153	110	110	M8

D = tete courte D1 = tete longue

MINOR 4.1-8.1-12.1 /R cr

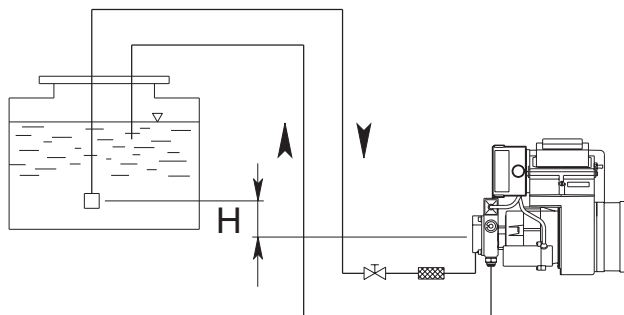


MODELE	A	B	C	D	D1	E	F	G	H	I	L	M	O
MINOR 4.1 /R cr	320	145	175	75	130	205	89	195	153	110	110	M8	205
MINOR 8.1 /R cr	320	145	175	75	130	205	89	195	153	110	110	M8	205
MINOR 12.1 /R cr	320	145	175	95	150	205	89	195	153	110	110	M8	205

D = tete courte D1 = tete longue

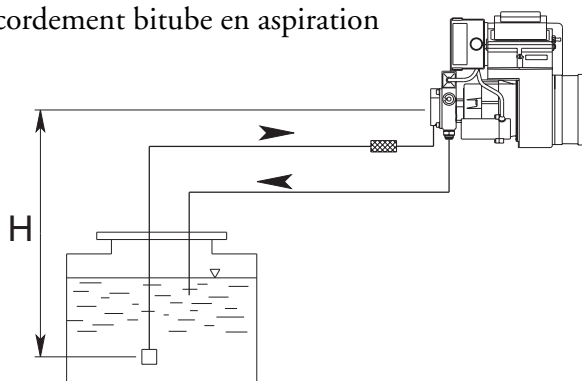
## RACCORDEMENT DU CIRCUIT D'ALIMENTATION FOD

Raccordement bitube en charge



H (m)	Longueurs tuyaux (m)	
	ø 8 mm	ø 10 mm
0,5	30	65
1	35	70
1,5	40	75
2	45	80
2,5	50	85
3	55	90
3,5	60	95

Raccordement bitube en aspiration



H (m)	Longueurs tuyaux (m)	
	ø 8 mm	ø 10 mm
0,5	23	55
1	21	50
1,5	19	45
2	17	40
2,5	14	34
3	9	28
3,5	4	22

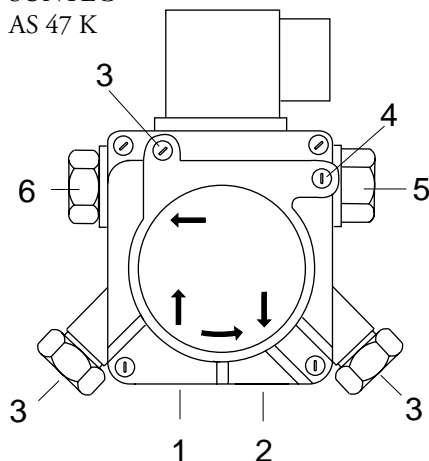
## DONNEES DE REGLAGE

	GICLEUR		POMPE BAR	DEBIT		REGLAGE TETE		REGLAGE VOLET D'AIR	
	GPH	SPRY		normal	réchauffeur	normal	réchauffeur	normal	réchauffeur
				kg/h	kg/h	Pos.	Pos.	Pos.	Pos.
MINOR 4.1 / R	0.40	80°H	12	1,7	-	0	-	1,5	-
	0.50	80°S	12	2	1,82	1	0	3	1,5
	0.60	80°S	12	2,4	1,92	2	1	4	3
	0.65	60°S	12	2,7	2,4	2	2	4,2	4
	0.75	60°S	12	3,1	2,7	3	2	4,6	4,2
	0.85	60°S	12	3,5	3,1	4	3	6	4,6
	1.00	60°S	12	4,35	4,1	6	4	9	6
MINOR 8.1 / R	1.00	60°S	12	4,35	4,1	0	0	1	1
	1.10	60°S	12	4,5	4,3	1	0	2,5	2
	1.25	60°S	12	5	4,7	2	1	3,5	3
	1.35	60°S	12	5,6	5,3	3	2	5	4
	1.50	60°S	12	6,2	5,9	4	3	6	5,5
	1.65	60°S	12	7	6,8	5	4,5	8	7
	1.75	60°S	12	7,6	7,3	6	5,5	9	8,5
MINOR 12.1 / R	1.50	60°S	12	6,2	-	0	-	1	-
	1.65	60°S	12	7	-	1	-	2	-
	1.75	60°S	12	7,6	-	2	-	2,8	-
	2.00	60°S	12	8,3	-	3	-	3,4	-
	2.25	60°S	12	9,3	-	3	-	5	-
	2.50	60°S	12	10,4	-	4	-	7	-
	2.75	60°S	12	11,5	-	6	-	9	-

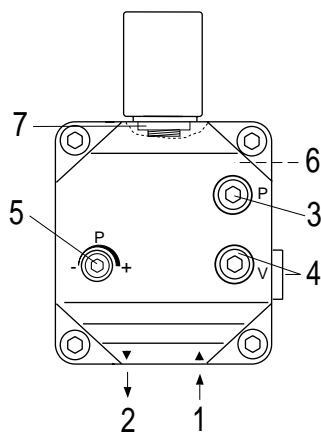
GICLEUR : DANFOSS H: S 80°÷60°; DELAVAN W 60°; STEINEN S 60°

## AMORÇAGE ET REGULATION DE LA POMPE FIOUL

SUNTEC  
AS 47 K



DANFOSS BFP 21 R3



- 1 - ASPIRATION
- 2 - RETOUR
- 3 - RACCORDEMENT DU MANOMETRE ET PURGE
- 4 - RACCORDEMENT DU VACUOMETRE
- 5 - VIS DE REGLAGE DE LA PRESSON
- 6 - AU GICLEUR
- 7 - FILTRE

### VERIFIER:

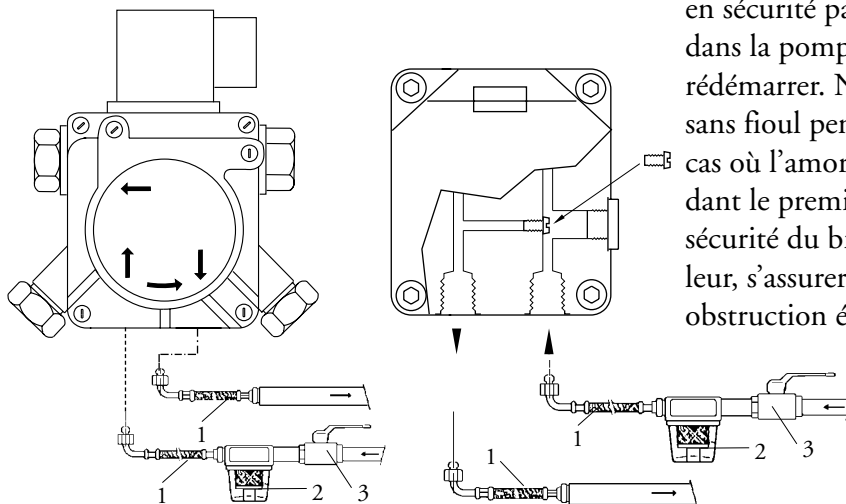
- Que les canalisations soient parfaitement étanches;
- Qu'on évite l'emploi de tuyaux flexibles, lorsque possible (utiliser, préférablement,

tuyaux en cuivre).

- Que la dépression ne dépasse pas 0,45 bar, pour éviter la cavitation de la pompe.
- Que la vanne de non retour soit appropriée

La pression de la pompe est réglée à 12 bar pendant les essais à l'usine. Avant de démarrer le brûleur, purger l'air contenue dans la pompe à travers la prise du manomètre. Remplir la tuyauterie de fioul pour faciliter l'amorçage de la pompe. Démarrer le brûleur et vérifier la pression d'alimentation de la pompe. S'il dût se passer que l'amorçage de la pompe ne se vérifie pas pendant le premier prebalayage, avec une conséquence, successive mise en sécurité du brûleur, rearmen la mise en sécurité du brûleur pour le démarrer à nouveau, en appuyant sur le bouton du coffret de sécurité. Si, après un amorçage effectué normalement, le brûleur se met

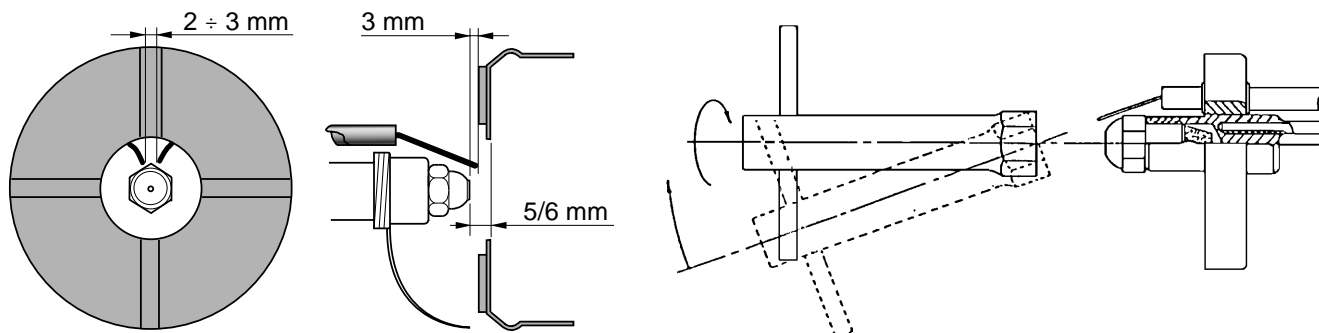
en sécurité par faute d'une chute de pression du fioul dans la pompe, rearmen la mise en sécurité pour le redémarrer. Ne jamais laisser que la pompe tourne sans fioul pendant plus que trois minutes. Dans le cas où l'amorçage de la pompe ne s'effectue pas pendant le premier prebalayage, déclencher la mise en sécurité du brûleur. Note: avant de démarrer le brûleur, s'assurer que le tuyau de retour soit ouvert. Une obstruction éventuelle pourrait causer la rupture du dispositif d'étanchéité de la pompe.



- 1 - TUYAUTERIES
- 2 - FILTRE
- 3 - ROBINET D'ARRET

## NETTOYAGE ET REMPLACEMENT DU GICLEUR

Utiliser seulement la clé en dotation, prévue pour cette opération, pour dévisser le gicleur, en veillant à ne pas endommager les électrodes. Monter le nouveau gicleur par le même soin. Note: Après le remplacement du gicleur, vérifier toujours la position des électrodes (voir à l'illustration). Une position erronée des électrodes pourrait donner des problèmes d'allumage.



## MISE EN SERVICE ET REGLAGE DU BRULEUR

Après avoir effectué l'installation du brûleur, vérifier les points suivants:

- Tension d'alimentation du brûleur et les fusibles de protection de ligne.
- Les connexions du moteur.
- La longueur correcte de la tuyauterie et que la même soit étanche.
- Le type de combustible, qui doit être indiqué pour le brûleur.
- La connexion des thermostats chaudière et des sécurités.
- Le sens de rotation du moteur.
- La calibration correcte de la protection thermique du moteur.

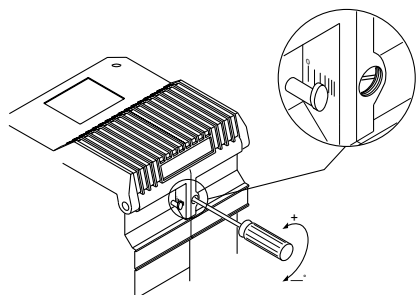
Une fois que toutes ces conditions ont été vérifiées, on pourra procéder aux essais du brûleur.

Alimenter le brûleur. Le coffret de sécurité alimente, en même temps, le transformateur d'allumage et le moteur du brûleur, qui pourvoit à effectuer un prebalayage de la chambre de combustion pendant environ 13 secondes (20 secondes avec coffrets Brahma). A la fin du prebalayage, le coffret de sécurité ouvre l'électrovanne de la pompe fioul, le transformateur produit un'étincelle et le brûleur s'allume.

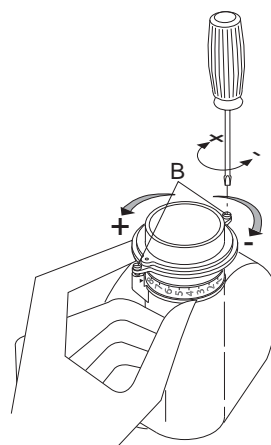
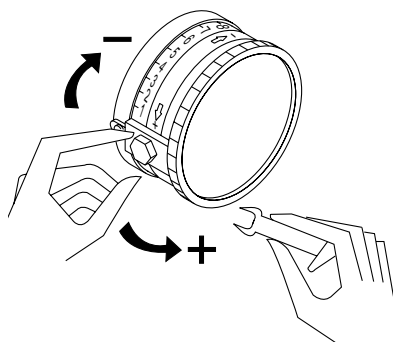
Après un intervalle de sécurité de 5 secondes et un allumage correct, le coffret de sécurité débranche le transformateur d'allumage. En cas de faute d'allumage, le coffret de sécurité met le brûleur en sécurité dans les 10 secondes. Dans ce cas, le réarmement manuel ne pourra intervenir qu'après 30 secondes env. de la mise en sécurité du brûleur. La pression d'alimentation de la pompe fioul devra toujours se garder autour de 12 bar.

Note: Avec la version préchauffée, le brûleur effectue un préchauffage de la tête de combustion pendant environ un minute. Dans ce cas, lors de la fermeture des thermostats chaudière, le signal d'allumage sera donné par le thermostat monté sur le préchauffeur même.

### REGLAGE DE LA TETE DE COMBUSTION

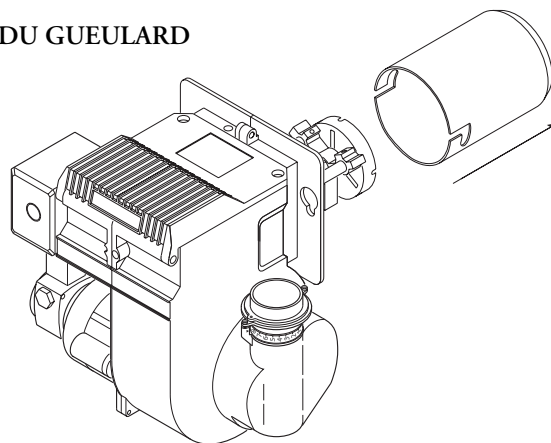
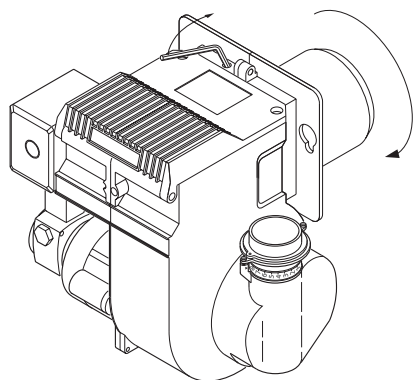


### REGLAGE DE L'AIR



Pour régler le débit d'air, desserrer les vis B et tourner le registre selon la nécessité. En tournant à gauche, le débit augmente ; en tournant à droite diminue. Resserrer les vis B.

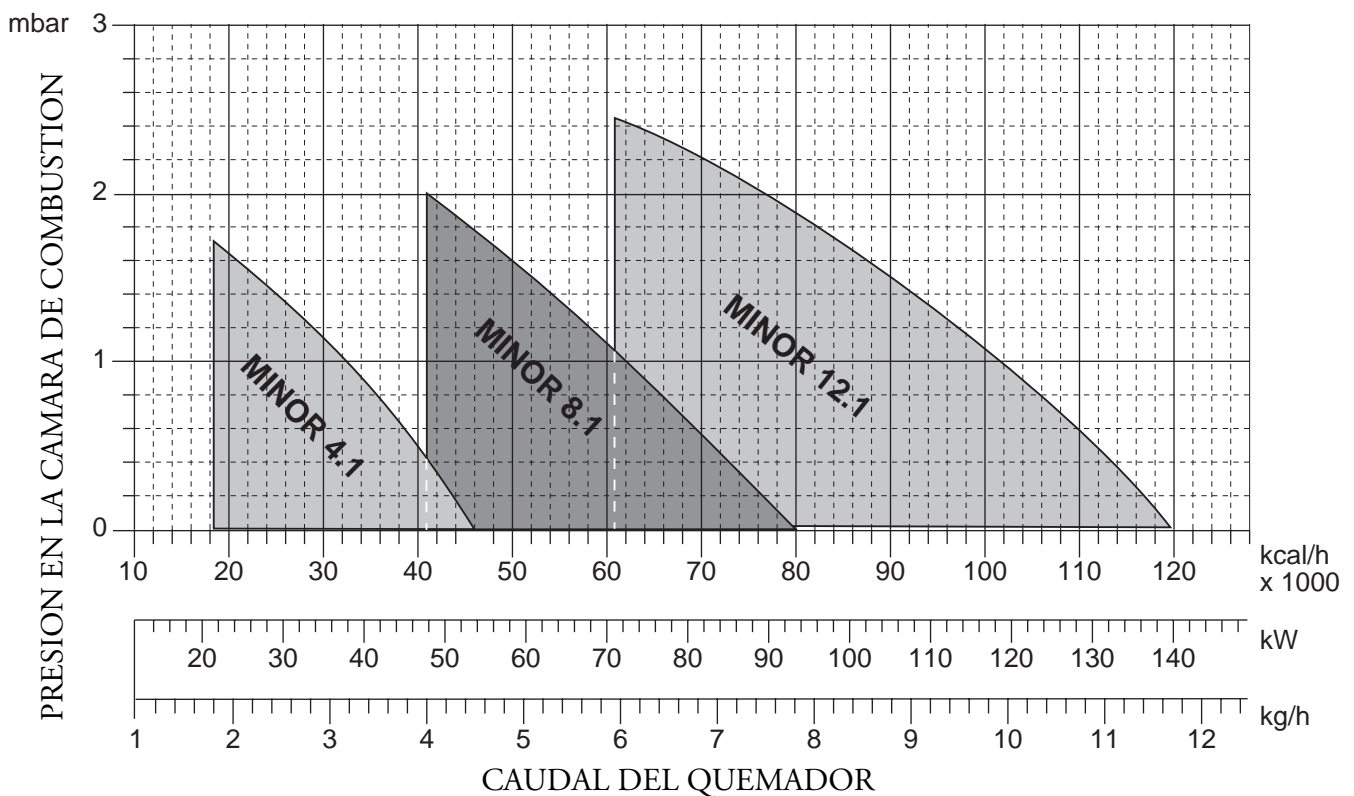
### DEMONTAGE DU GUEULARD





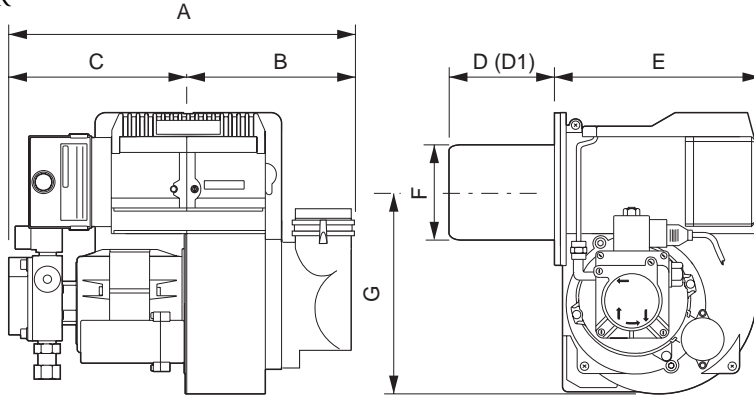
**CARACTERISTICAS TECNICAS**

MODELOS		MINOR 4.1/ R	MINOR 8.1/ R	MINOR 12.1/ R
Potencia térmica máx.	kcal/h	45.900	81.600	122.400
	kW	53,4	94,9	142,3
Potencia térmica mín.	kcal/h	18.330	40.800	61.200
	kW	21,3	47,4	71
Caudal máx. de gasóleo	kg/h	4,5	8	12
Caudal mín. de gasóleo	kg/h	1,8	4	6
Aliment.eléct 50 Hz	V	230	230	230
Potencia del motor	W	75	100	130
Revol. por minuto	Nº	2.800	2.800	2.800
Transformador de encendido (Cofi)	kV/mA	8/20	8/20	8/20
	(Danf./Land.)kV/mA	15/40	15/40	15/40
Equipo de control de la llama	LANDIS	LOA 24	LOA 24	LOA 24
Combustible : gasóleo	kcal/kg	10.200 max. visc 1,5°E a 20°C		

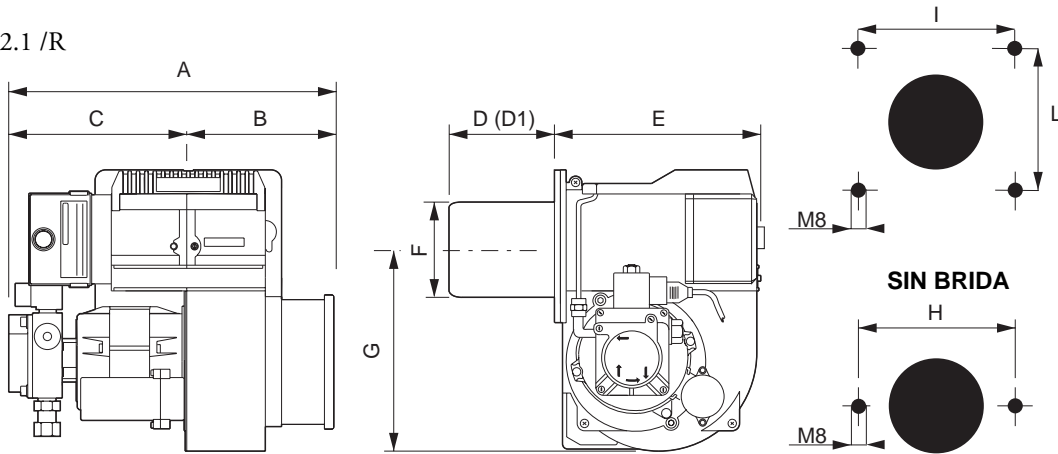
**CURVAS DE TRABAJO**


**DIMENSIONES GLOBALES**

MINOR 4.1 /R



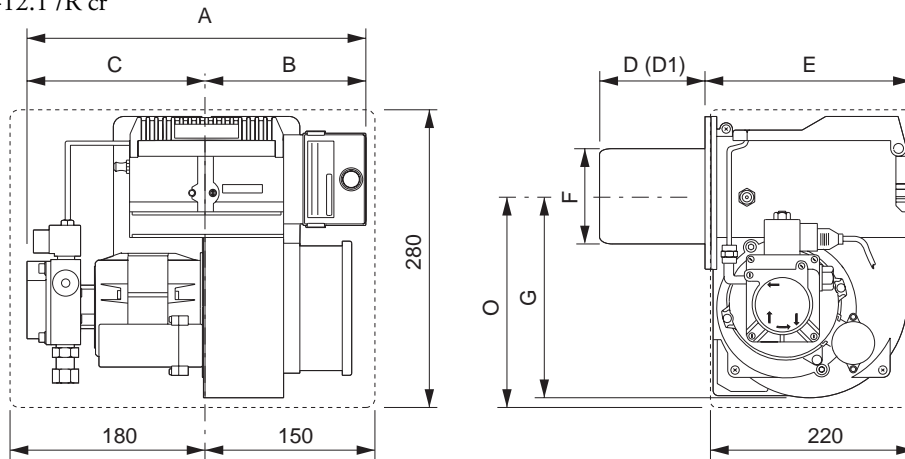
MINOR 8.1-12.1 /R



MODELOS	A	B	C	D	D1	E	F	G	H	I	L	M
MINOR 4.1 /R	340	165	175	75	130	205	89	195	153	110	110	M8
MINOR 8.1 /R	320	145	175	75	130	205	89	195	153	110	110	M8
MINOR 12.1 /R	320	145	175	95	150	205	89	195	153	110	110	M8

D = cabeza corta D1 = cabeza larga

MINOR 4.1-8.1-12.1 /R cr

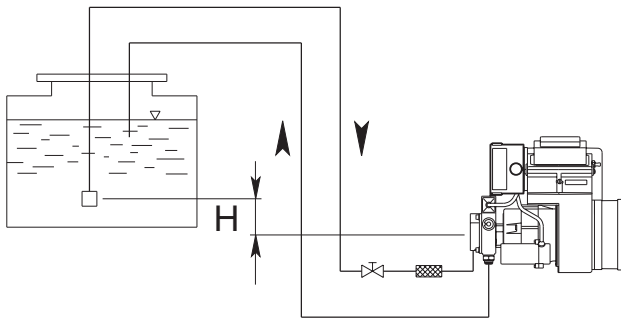


MODELOS	A	B	C	D	D1	E	F	G	H	I	L	M	O
MINOR 4.1 /R cr	320	145	175	75	130	205	89	195	153	110	110	M8	205
MINOR 8.1 /R cr	320	145	175	75	130	205	89	195	153	110	110	M8	205
MINOR 12.1 /R cr	320	145	175	95	150	205	89	195	153	110	110	M8	205

D = cabeza corta D1 = cabeza larga

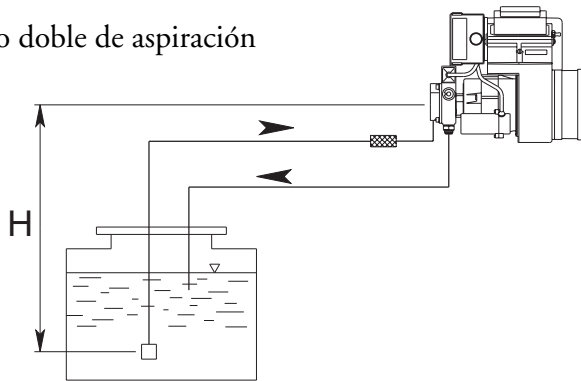
**ALIMENTACIÓN DEL COMBUSTIBLE**

Tubo doble de la parte superior del depósito



H (m)	Longitud de los tubos (m)	
	ø 8 mm	ø 10 mm
0,5	30	65
1	35	70
1,5	40	75
2	45	80
2,5	50	85
3	55	90
3,5	60	95

Tubo doble de aspiración



H (m)	Longitud de los tubos (m)	
	ø 8 mm	ø 10 mm
0,5	23	55
1	21	50
1,5	19	45
2	17	40
2,5	14	34
3	9	28
3,5	4	22

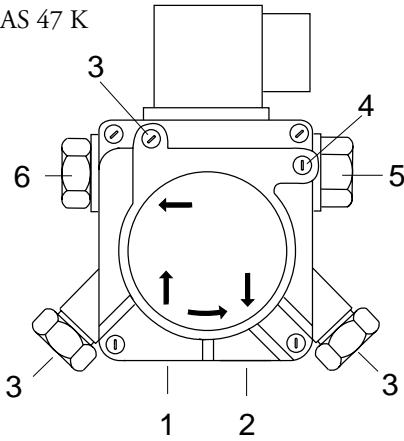
**DATOS DE REGULACIÓN**

	INYECTOR		BOMBA	CAUDAL		REGLAJE DE LA CABEZA		REGLAJE DEL AIRE	
	GPH	SPRY		normal	precalentador	normal	precalentador	normal	precalentador
	BAR	kg/h	kg/h	Pos.	Pos.	Pos.	Pos.		
MINOR 4.1 / R	0.40	80°H	12	1,7	-	0	-	1,5	-
	0.50	80°S	12	2	1,82	1	0	3	1,5
	0.60	80°S	12	2,4	1,92	2	1	4	3
	0.65	60°S	12	2,7	2,4	2	2	4,2	4
	0.75	60°S	12	3,1	2,7	3	2	4,6	4,2
	0.85	60°S	12	3,5	3,1	4	3	6	4,6
	1.00	60°S	12	4,35	4,1	6	4	9	6
MINOR 8.1 / R	1.00	60°S	12	4,35	4,1	0	0	1	1
	1.10	60°S	12	4,5	4,3	1	0	2,5	2
	1.25	60°S	12	5	4,7	2	1	3,5	3
	1.35	60°S	12	5,6	5,3	3	2	5	4
	1.50	60°S	12	6,2	5,9	4	3	6	5,5
	1.65	60°S	12	7	6,8	5	4,5	8	7
	1.75	60°S	12	7,6	7,3	6	5,5	9	8,5
MINOR 12.1 / R	1.50	60°S	12	6,2	-	0	-	1	-
	1.65	60°S	12	7	-	1	-	2	-
	1.75	60°S	12	7,6	-	2	-	2,8	-
	2.00	60°S	12	8,3	-	3	-	3,4	-
	2.25	60°S	12	9,3	-	3	-	5	-
	2.50	60°S	12	10,4	-	4	-	7	-
	2.75	60°S	12	11,5	-	6	-	9	-

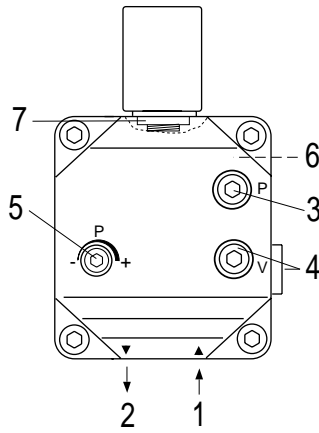
INYECTOR : DANFOSS H:-S 80°±60°; DELAVAN W 60°; STEINEN S 60°

### CEBADO Y REGULACION DE LA BOMBA GASOLEO

SUNTEC  
AS 47 K



DANFOSS BFP 21 R3



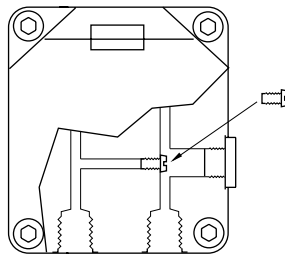
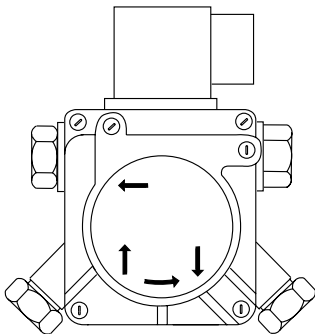
- 1 - ASPIRACIÓN
- 2 - RETORNO
- 3 - PURGA Y TOMA PARA EL MANÓMETRO
- 4 - TOMA PARA EL VACUÓMETRO
- 5 - REGULACIÓN DE PRESIÓN
- 6 - AL INYECTOR
- 7 - FILTRO

**COMPROBAR:**

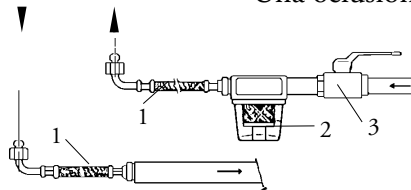
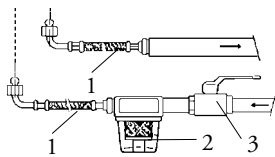
- Que las tuberías sean totalmente estancas;
- Que non se utilicen tubos flexibles, donde posible (utilizar, preferiblemente, tubos de cobre);
- Que la depresión no sea superior a los 0,45 bar,

para evitar que la bomba entre en cavitación;  
- Que la válvula de non retorno sea adecuada;

La presión de la bomba es regulada a 12 bar por el fabricante, durante los ensayos. Antes de arrancar el quemador, purgar el aire contenido en la bomba a través la toma para el manómetro. Llenar las tuberías con gasóleo, para facilitar el cebado de la bomba. Arrancar el quemador y comprobar la presión de alimentación de la bomba. Si se verificases que el cebado de la bomba no se efectúa durante el primer prebarrido, con consecuente, sucesivo bloqueo del quemador, rearmar el bloqueo para arrancarlo nuevamente, presionando el botón del equipo de control. Si, una vez que el cebado se ha efectuado normalmente, el quemador se bloquease después del prebarrido, por falta de presión del gasóleo en la bomba, armar el bloqueo para arrancarlo nuevamente. Nunca permitir que la bomba funcione sin gasóleo durante más de tres minutos. Nota: antes de poner en marcha el quemador,



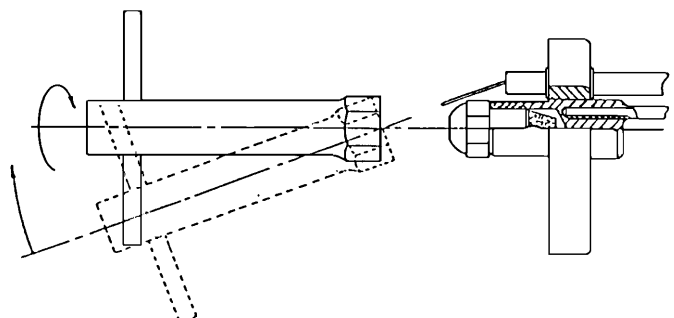
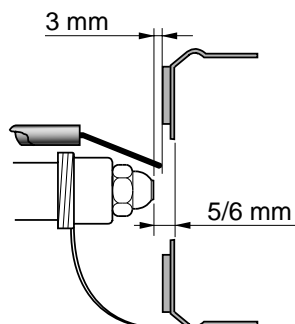
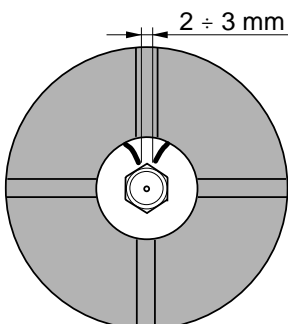
comprobar que el tubo de retorno esté abierto. Una oclusión eventual, podría estropear el elemento de estanqueidad de la bomba. del prebarrido, por falta de presión del gasóleo en la bomba, armar el bloqueo para arrancarlo nuevamente. Nunca permitir que la bomba funcione sin gasóleo durante más de tres minutos. Nota: antes de poner en marcha el quemador, comprobar que el tubo de retorno esté abierto. Una oclusión eventual, podría estropear el elemento de estanqueidad de la bomba.



- 1 - LATIGUILLOS
- 2 - FILTRO
- 3 - VALVULA DE CORTE

### LIMPIEZA Y SOSTITUCIÓN DEL INYECTOR

Utilizar solamente la llave de suministro para desmontar el inyector, teniendo cuidado de no estropear los electrodos. Montar el nuevo inyector con el mismo cuidado. Nota: Comprobar todavía la posición de los electrodos después del montaje (ver a la ilustración). Una posición errada puede originar problemas de encendido.



## FUNCIONAMIENTO Y REGULACIÓN DEL QUEMADOR

Después de haber instalado el quemador, comprobar los puntos siguientes:

- La tensión de alimentación del quemador y los fusibles de protección de línea.
- Las conexiones del motor.
- La largueza correcta y la estanqueidad de la tubería.
- El tipo de combustible, que debe ser adecuado para el quemador.
- Las conexión de los termostatos de caldera y de los dispositivos de seguridad.
- El sentido de rotación del motor.
- La regulación correcta de la protección térmica del motor.

Cuando todas estas condiciones se cumplen, es posible de proceder con las pruebas del quemador.

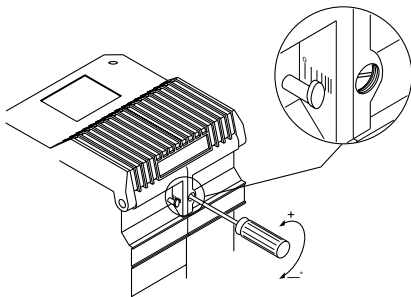
Alimentar el quemador. El equipo de control alimenta, al mismo tiempo, el transformador de encendido y el motor del quemador, que empieza el prebarrido de la cámara de combustión por unos 13 segundos (20 segundos con equipos de control Brahma). Al termino del prebarrido, el equipo de control abre la electroválvula de la bomba de gasóleo, el transformador de encendido genera una chispa y el quemador se enciende.

Después de un intervalo de seguridad de 5 segundos, y un encendido correcto, el equipo de control desconecta el transformador de encendido. En caso de falta de encendido, el equipo de control pone el quemador en posición de seguridad dentro de los 10 segundos. En este caso, el rearme manual del quemador no podrá ocurrir antes que se hayan pasado unos 30 segundos de la misa en seguridad del quemador.

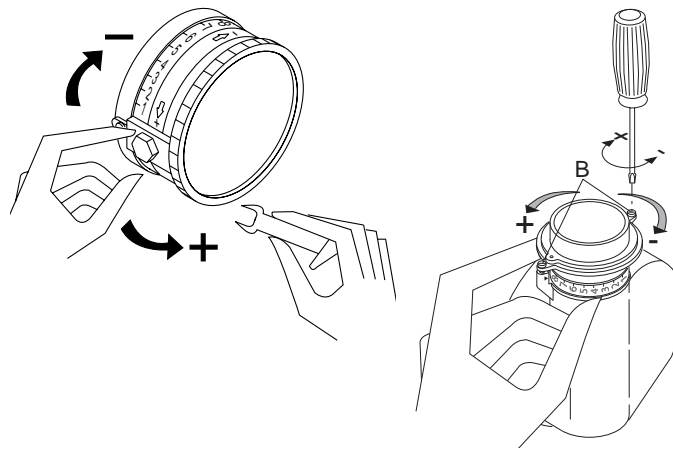
La presión de alimentación de la bomba debe estar acerca de los 12 bar.

Nota: En la versión con precalentador, el quemador efectúa el calentamiento de la cabeza de combustión durante un minuto. En este caso, al cierre de los termostatos de caldera, el señal de encendido será dado por el termostato instalado sobre el precalentador mismo.

### REGLAJE DE LA CABEZA DE COMBUSTIÓN

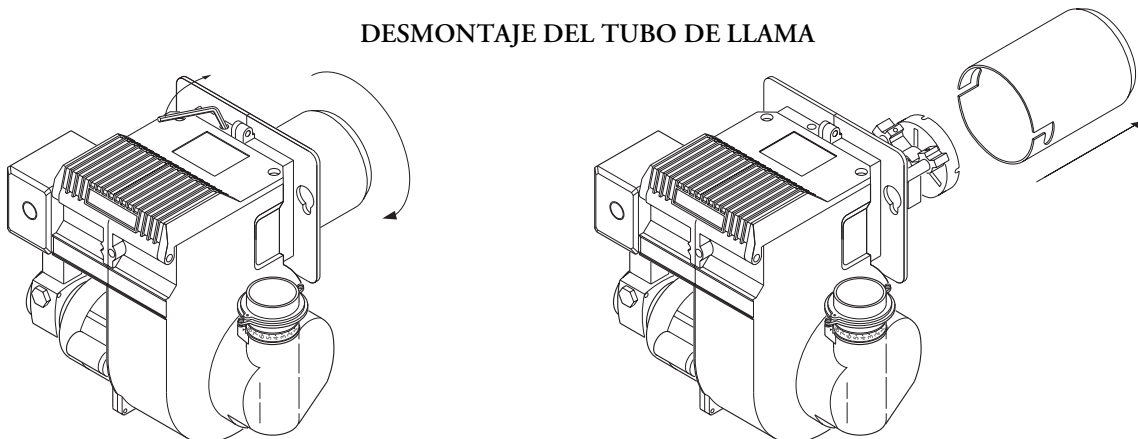


### REGLAJE DEL AIRE



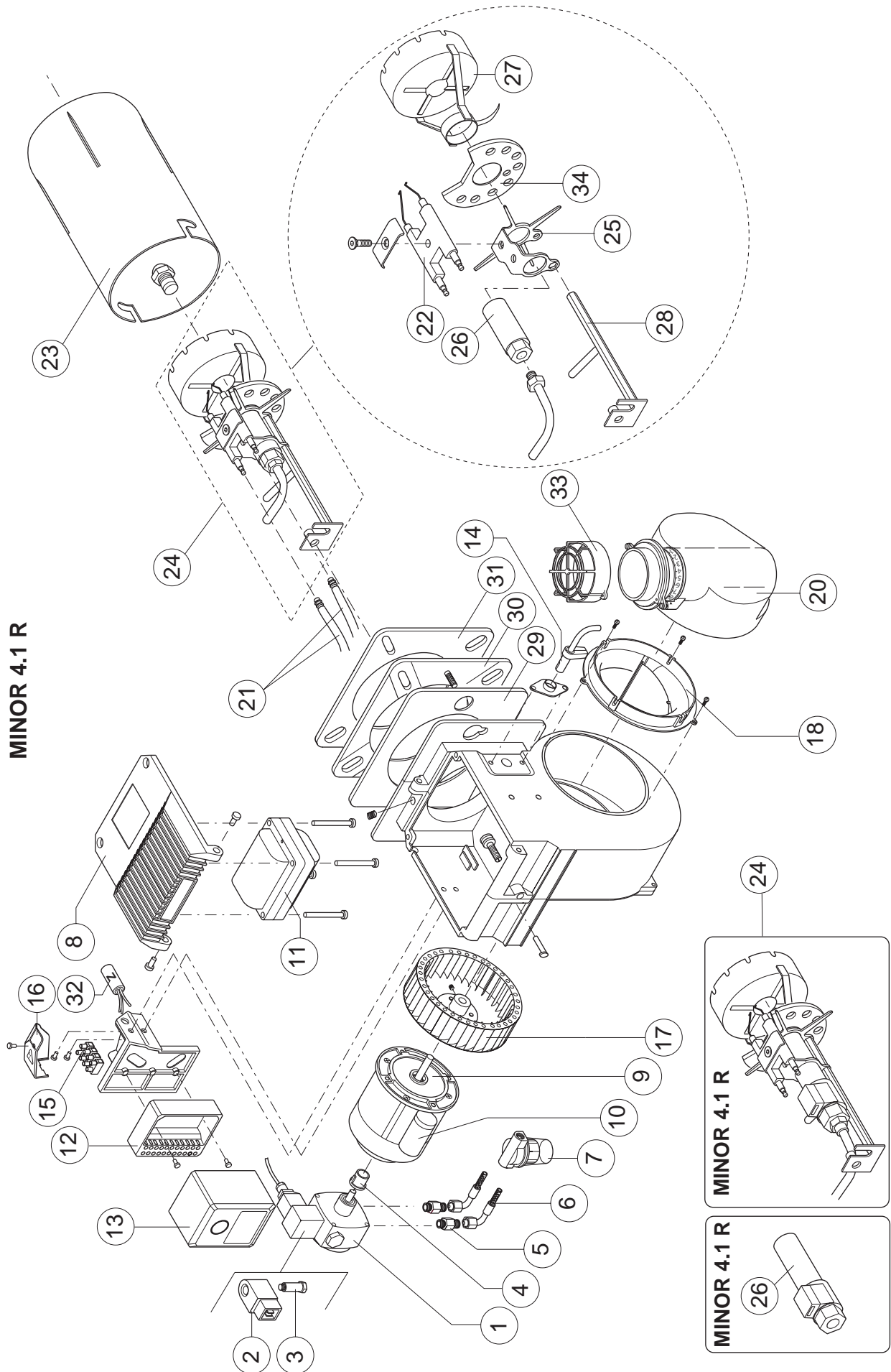
Para regular el caudal del aire , quitar el tornillo B y girar el registro aire según se necesite. Atornillando, el caudal del aire disminuye, desatornillando aumenta. Bloquear el tornillo B.

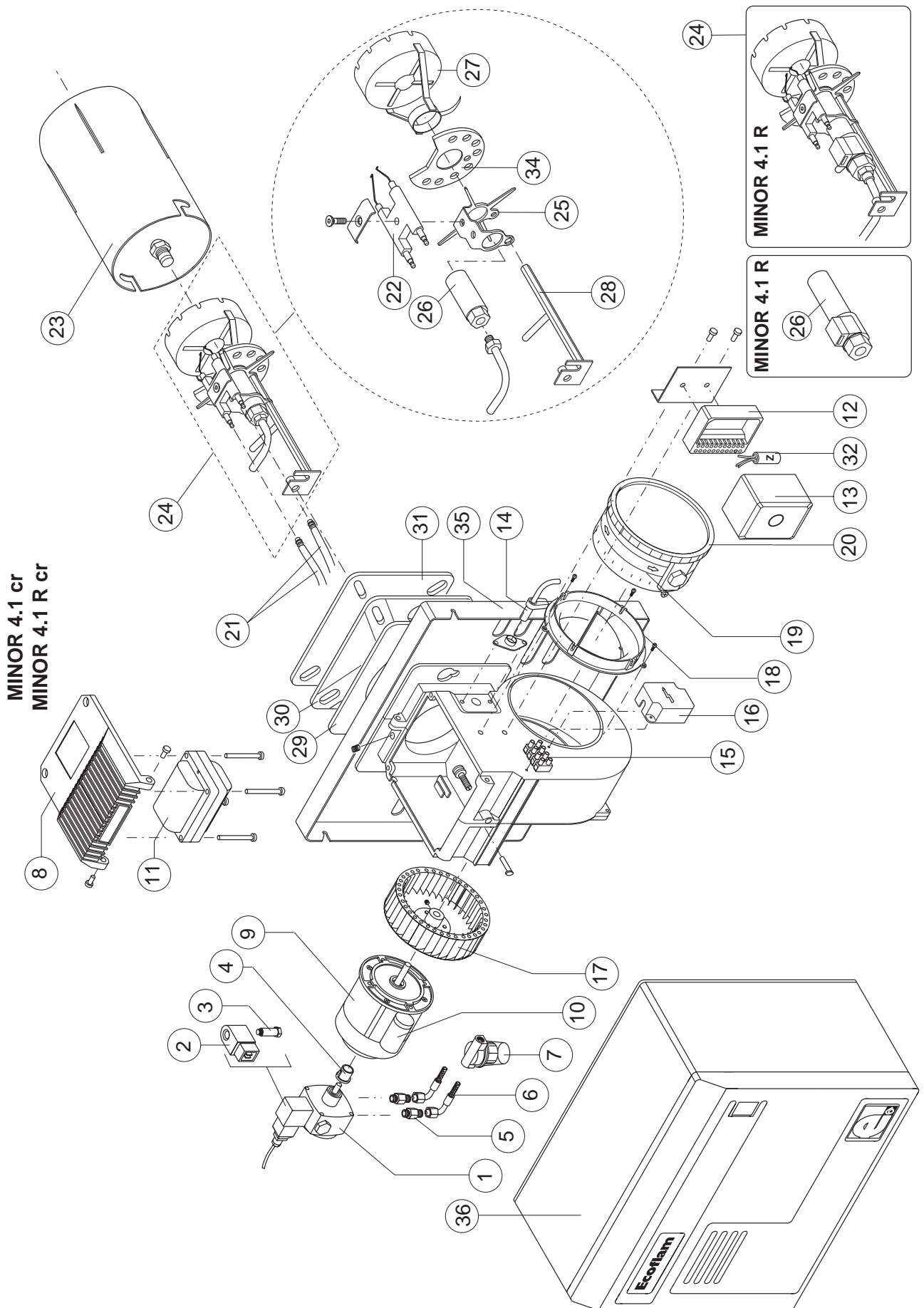
### DESMONTAJE DEL TUBO DE LLAMA





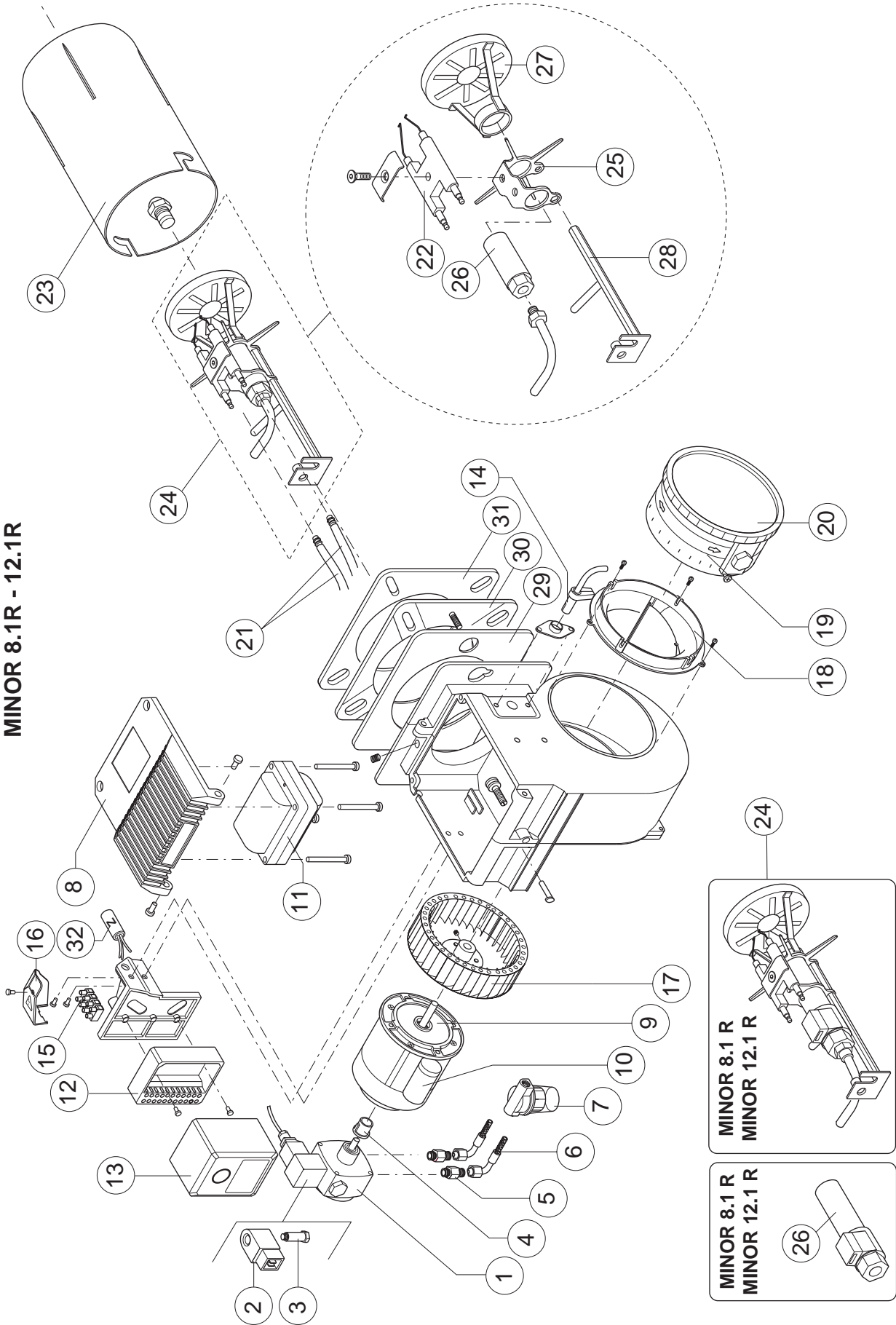
**MINOR 4.1**  
**MINOR 4.1 R**







**MINOR 8.1 - 12.1  
MINOR 8.1R - 12.1R**







N°	DESCRIZIONE	MINOR 4.1 codice	MINOR 4.1 R codice
1	- POMPA	SUNTEC AS 47 K	P122
		DANFOSS BFP 21 R3	P121/71
2	- BOBINA	SUNTEC	V504
		DANFOSS	V510/2
3	- VALVOLA	SUNTEC	V410
		DANFOSS	V412/1
4	- GIUNTO	AEG	MP504
5	- RACCORDO PER FLESSIBILE		BFR01103/001
6	- TUBO FLESSIBILE	TN 6 x 700	S906
7	- FILTRO	ART.70451-006PG	S105
8	- COPERCHIO		BFC09052
9	- MOTORE	75 W AEG	M181
10	- CONDENSATORE	3 µF x 75W	C107/9
11	- TRASFORMATORE	LANDIS TQ031A27	T136
		DANFOSS CM	T130
		COFI E820 CM	T120
12	- ZOCCOLO APPARECCHIATURA	LANDIS	A402
13	- APPARECCHIATURA	LANDIS LOA 24	A117/1
14	- FOTORESISTENZA	LANDIS	A208/3
15	- MORSETTIERA		E228/2
16	- COPERCHIO MORSETTIERA		BFC09011/1
17	- VENTOLA	120 x 60	BFV10053/001
18	- CONVOGLIATORE ARIA		GRMP005
19	- FASCIA REGOLAZIONE ARIA		-
20	- CUFFIA		GRCA030
21	- CAVI ACCENSIONE	TC	BFE01401/1
		TL	BFE01401/2
22	- ELETTRODI	x COFI	BFE01101
		x Danfoss/Landis	BFE01102
23	- BOCCAGLIO	TC	BFB01253/102
		TL	BFB01253/202
24	- TESTA DI COMBUSTIONE	TC	
		TL	
25	- SUPPORTO CROCIERA		BFC10020/001
26	- CROCIERA		BFC11016
		Danfoss 030N1218	-
27	- DIFFUSORE		BFD04006/001
28	- ASTA DI REGOLAZIONE TESTA	TC	BFA06108/001
		TL	BFA06106/001
29	- GUARNIZIONE BRUCIATORE		BFG02009/1
30	- FLANGIA		BFF01002
31	- GUARNIZIONE BRUCIATORE	ø 92	BFG02011
32	- FILTRO ANTIDISTURBO	D.E.M.	S132/3
33	- PROTECTION		BFC03039/5
34	- DISCO POSTERIORE		BFD01012/001

TC = TESTA CORTA TL = TESTA LUNGA

N°	DESCRIZIONE	MINOR 4.1 cr codice	MINOR 4.1 R cr codice
1	- POMPA	SUNTEC AS 47 K	P122
		DANFOSS BFP 21 R3	P121/71
2	- BOBINA	SUNTEC	V504
		DANFOSS	V510/2
3	- VALVOLA	SUNTEC	V410
		DANFOSS	V412/1
4	- GIUNTO	AEG	MP504
5	- RACCORDO PER FLESSIBILE		BFR01103/001
6	- TUBO FLESSIBILE	TN 6 x 700	S906
7	- FILTRO	ART.70451-006PG	S105
8	- COPERCHIO		BFC09052
9	- MOTORE	75 W AEG	M181
10	- CONDENSATORE	3 µF x 75W	C107/9
11	- TRASFORMATORE	LANDIS TQ031A27	T136
		DANFOSS CM	T130
		COFI E820 CM	T120
12	- ZOCCOLO APPARECCHIATURA	LANDIS	A402
13	- APPARECCHIATURA	LANDIS LOA 24	A117/1
14	- FOTORESISTENZA	LANDIS	A208/5
15	- MORSETTIERA		E228/2
16	- COPERCHIO MORSETTIERA		BFC02007
17	- VENTOLA	120 x 60	BFV10053/001
18	- CONVOGLIATORE ARIA		GRMP005
19	- FASCIA REGOLAZIONE ARIA		BFC04011/001
20	- CUFFIA		BFC04017
21	- CAVI ACCENSIONE	TC	BFE01401/1
		TL	BFE01401/2
22	- ELETTRODI	x COFI	BFE01101
		x Danfoss/Landis	BFE01102
23	- BOCCAGLIO	TC	BFB01253/102
		TL	BFB01253/202
24	- TESTA DI COMBUSTIONE	TC	
		TL	
25	- SUPPORTO CROCIERA		BFC10020/001
26	- CROCIERA		BFC11016
		Danfoss 030N1218	-
27	- DIFFUSORE		BFD04006/001
28	- ASTA DI REGOLAZIONE TESTA	TC	BFA06108/001
		TL	BFA06106/001
29	- GUARNIZIONE BRUCIATORE		BFG02009/1
30	- FLANGIA		BFF01002
31	- GUARNIZIONE BRUCIATORE	ø 92	BFG02011
32	- FILTRO ANTIDISTURBO	D.E.M.	S132/3
33	- PROTECTION		-
34	- DISCO POSTERIORE		BFD01012/001
35	- SCUDO		BFC07101/117
36	- COFANO		BFC06101/011

TC = TESTA CORTA TL = TESTA LUNGA

N°	DESCRIZIONE	MINOR 8.1 codice	MINOR 8.1 R codice
1	- POMPA	SUNTEC AS 47 K	P122
		DANFOSS BFP 21 R3	P121/71
2	- BOBINA	SUNTEC	V504
		DANFOSS	V510/2
3	- VALVOLA	SUNTEC	V410
		DANFOSS	V412/1
4	- GIUNTO	AEG	MP504
5	- RACCORDO PER FLESSIBILE		BFR01103/001
6	- TUBO FLESSIBILE	TN 6 x 700	S906
7	- FILTRO	ART.70451-006PG	S105
8	- COPERCHIO		BFC09052
9	- MOTORE	100 W AEG	M181/2
10	- CONDENSATORE	4 µF x 100 W	C107/10
11	- TRASFORMATORE	LANDIS TQ031A27	T136
		DANFOSS CM	T130
		COFI E820 CM	T120
12	- ZOCCOLO APPARECCHIATURA	LANDIS	A402
13	- APPARECCHIATURA	LANDIS LOA 24	A117/1
14	- FOTORESISTENZA	LANDIS	A207/1
15	- MORSETTIERA		E228/2
16	- COPERCHIO MORSETTIERA		BFC09011/1
17	- VENTOLA	124 x 60	BFV10055/001
18	- CONVOGLIATORE ARIA		GRMP005/1
19	- FASCIA REGOLAZIONE ARIA		BFC04011/001
20	- CUFFIA		BFC04017
21	- CAVI ACCENSIONE	TC	BFE01401/1
		TL	BFE01401/2
22	- ELETTRODI	x COFI	BFE01101
		x Danfoss/Landis	BFE01102
23	- BOCCAGLIO	TC	BFB01211/102
		TL	BFB01211/202
24	- TESTA DI COMBUSTIONE	TC	
		TL	
25	- SUPPORTO CROCIERA		BFC10020/001
26	- CROCIERA		BFC11016
		Danfoss 030N1218	-
27	- DIFFUSORE		BFD04010/001
28	- ASTA DI REGOLAZIONE TESTA	TC	BFA06105/001
		TL	BFA06104/001
29	- GUARNIZIONE BRUCIATORE		BFG02009/1
30	- FLANGIA		BFF01002
31	- GUARNIZIONE BRUCIATORE	ø 92	BFG02011
32	- FILTRO ANTIDISTURBO	D.E.M.	S132/3

TC = TESTA CORTA TL = TESTA LUNGA

N°	DESCRIZIONE	MINOR 8.1 cr codice	MINOR 8.1 R cr codice
1	- POMPA	SUNTEC AS 47 K	P122
		DANFOSS BFP 21 R3	P121/71
2	- BOBINA	SUNTEC	V504
		DANFOSS	V510/2
3	- VALVOLA	SUNTEC	V410
		DANFOSS	V412/1
4	- GIUNTO	AEG	MP504
5	- RACCORDO PER FLESSIBILE		BFR01103/001
6	- TUBO FLESSIBILE	TN 6 x 700	S906
7	- FILTRO	ART.70451-006PG	S105
8	- COPERCHIO		BFC09052
9	- MOTORE	100 W AEG	M181/2
10	- CONDENSATORE	4 µF x 100 W	C107/10
11	- TRASFORMATORE	LANDIS TQ031A27	T136
		DANFOSS CM	T130
		COFI E820 CM	T120
12	- ZOCCOLO APPARECCHIATURA	LANDIS	A402
13	- APPARECCHIATURA	LANDIS LOA 24	A117/1
14	- FOTORESISTENZA	LANDIS	A207/2
15	- MORSETTIERA		E228/2
16	- COPERCHIO MORSETTIERA		BFC02007
17	- VENTOLA	124 x 60	BFV10055/001
18	- CONVOGLIATORE ARIA		GRMP005/1
19	- FASCIA REGOLAZIONE ARIA		BFC04011/001
20	- CUFFIA		BFC04017
21	- CAVI ACCENSIONE	TC	BFE01401/1
		TL	BFE01401/2
22	- ELETTRODI	x COFI	BFE01101
		x Danfoss/Landis	BFE01102
23	- BOCCAGLIO	TC	BFB01211/102
		TL	BFB01211/202
24	- TESTA DI COMBUSTIONE	TC	
		TL	
25	- SUPPORTO CROCIERA		BFC10020/001
26	- CROCIERA		BFC11016
		Danfoss 030N1218	-
27	- DIFFUSORE		BFD04010/001
28	- ASTA DI REGOLAZIONE TESTA	TC	BFA06105/001
		TL	BFA06104/001
29	- GUARNIZIONE BRUCIATORE		BFG02009/1
30	- FLANGIA		BFF01002
31	- GUARNIZIONE BRUCIATORE	ø 92	BFG02011
32	- FILTRO ANTIDISTURBO	D.E.M.	S132/3
33	- SCUDO		BFC07101/117
34	- COFANO		BFC06101/011

TC = TESTA CORTA TL = TESTA LUNGA

N°	DESCRIZIONE	MINOR 12.1 codice	MINOR 12.1 R codice
1	- POMPA	SUNTEC AS 47 K	P122
		DANFOSS BFP 21 R3	P121/71
2	- BOBINA	SUNTEC	V504
		DANFOSS	V510/2
3	- VALVOLA	SUNTEC	V410
		DANFOSS	V412/1
4	- GIUNTO	AEG	MP504
5	- RACCORDO PER FLESSIBILE		BFR01103/001
6	- TUBO FLESSIBILE	TN 6x700	S906
7	- FILTRO	ART.70451-006PG	S105
8	- COPERCHIO		BFC09052
9	- MOTORE	130 W AEG	M181/3
10	- CONDENSATORE	4 µF x 130W	C107/10
11	- TRASFORMATORE	LANDIS TQ031A27	T136
		DANFOSS CM	T130
		COFI E820 CM	T120
12	- ZOCCOLO APPARECCHIATURA	LANDIS	A402
13	- APPARECCHIATURA	LANDIS LOA 24	A117/1
14	- FOTORESISTENZA	LANDIS	A207/1
15	- MORSETTIERA		E228/2
16	- COPERCHIO MORSETTIERA		BFC09011/1
17	- VENTOLA	124 x 60	BFV10055/001
18	- CONVOGLIATORE ARIA		GRMP006/1
19	- FASCIA REGOLAZIONE ARIA		BFC04011/001
20	- CUFFIA		BFC04004
21	- CAVI ACCENSIONE	TC	BFE01401/2
		TL	BFE01401/3
22	- ELETTRODI	x COFI	BFE01101
		x Danfoss/Landis	BFE01102
23	- BOCCAGLIO	TC	BFB01202/102
		TL	BFB01202/202
24	- TESTA DI COMBUSTIONE	TC	
		TL	
25	- SUPPORTO CROCIERA		BFC10020/001
26	- CROCIERA		BFC11016
		Danfoss 030N1218	-
27	- DIFFUSORE		BFD04011/201
28	- ASTA DI REGOLAZIONE TESTA	TC	BFA06103/101
		TL	BFA06103/201
29	- GUARNIZIONE BRUCIATORE		BFG02009/1
30	- FLANGIA		BFF01002
31	- GUARNIZIONE BRUCIATORE	ø 92	BFG02011
32	- FILTRO ANTIDISTURBO	D.E.M.	S132/3

TC = TESTA CORTA TL = TESTA LUNGA

N°	DESCRIZIONE	MINOR 12.1 cr codice	MINOR 12.1 R cr codice
1	- POMPA	SUNTEC AS 47 K	P122
		DANFOSS BFP 21 R3	P121/71
2	- BOBINA	SUNTEC	V504
		DANFOSS	V510/2
3	- VALVOLA	SUNTEC	V410
		DANFOSS	V412/1
4	- GIUNTO	AEG	MP504
5	- RACCORDO PER FLESSIBILE		BFR01103/001
6	- TUBO FLESSIBILE	TN 6x700	S906
7	- FILTRO	ART.70451-006PG	S105
8	- COPERCHIO		BFC09052
9	- MOTORE	130 W AEG	M181/3
10	- CONDENSATORE	4 µF x 130W	C107/10
11	- TRASFORMATORE	LANDIS TQ031A27	T136
		DANFOSS CM	T130
		COFI E820 CM	T120
12	- ZOCCOLO APPARECCHIATURA	LANDIS	A402
13	- APPARECCHIATURA	LANDIS LOA 24	A117/1
14	- FOTORESISTENZA	LANDIS	A207/1
15	- MORSETTIERA		E228/2
16	- COPERCHIO MORSETTIERA		BFC02007
17	- VENTOLA	124 x 60	BFV10055/001
18	- CONVOGLIATORE ARIA		GRMP006/1
19	- FASCIA REGOLAZIONE ARIA		BFC04011/001
20	- CUFFIA		BFC04004
21	- CAVI ACCENSIONE	TC	BFE01401/1
		TL	BFE01401/2
22	- ELETTRODI	x COFI	BFE01101
		x Danfoss/Landis	BFE01102
23	- BOCCAGLIO	TC	BFB01202/102
		TL	BFB01202/202
24	- TESTA DI COMBUSTIONE	TC	
		TL	
25	- SUPPORTO CROCIERA		BFC10020/001
26	- CROCIERA		BFC11016
		Danfoss 030N1218	-
27	- DIFFUSORE		BFD04011/201
28	- ASTA DI REGOLAZIONE TESTA	TC	BFA06103/101
		TL	BFA06103/201
29	- GUARNIZIONE BRUCIATORE		BFG02009/1
30	- FLANGIA		BFF01002
31	- GUARNIZIONE BRUCIATORE	ø 92	BFG02011
32	- FILTRO ANTIDISTURBO	D.E.M.	S132/3
33	- SCUDO		BFC07101/117
34	- COFANO		BFC06101/011

TC = TESTA CORTA TL = TESTA LUNGA

N°	DESCRIPTION	MINOR 4.1 code	MINOR 4.1 R code
1	- OIL PUMP	SUNTEC AS 47 K	P122
		DANFOSS BFP 21 R3	P121/71
2	- COIL	SUNTEC	V504
		DANFOSS	V510/2
3	- OIL VALVE	SUNTEC	V410
		DANFOSS	V412/1
4	- COUPLING	AEG	MP504
5	- NIPPLE		BFR01103/001
6	- HOSES	TN 6 x 700	S906
7	- FILTER	ART.70451-006PG	S105
8	- COVER		BFC09052
9	- MOTOR	75 W AEG	M181
10	- CAPACITOR	3 µF x 75W	C107/9
11	- IGNITION TRANSFORMER	LANDIS TQ031A27	T136
		DANFOSS CM	T130
		COFI E820 CM	T120
12	- CONTROL BOX BASE	LANDIS	A402
13	- CONTROL BOX	LANDIS LOA 24	A117/1
14	- PHOTORESISTOR	LANDIS	A208/3
15	- WIRING TERMINAL BOX		E228/2
16	- PROTECTION BOX		BFC09011/1
17	- FAN	120 x 60	BFV10053/001
18	- AIR CONVEYOR		GRMP005
19	- AIR DAMPER		-
20	- COVER AIR INLET		GRCA030
21	- CABLES	TC	BFE01401/1
		TL	BFE01401/2
22	- ELECTRODES	x COFI	BFE01101
		x Danfoss/Landis	BFE01102
23	- BLAST TUBE	TC	BFB01253/102
		TL	BFB01253/202
24	- FIRING HEAD	TC	
		TL	
25	- NOZZLE HOLDER SUPPORT		BFC10020/001
26	- NOZZLE HOLDER		BFC11016
		Danfoss 030N1218	-
27	- DIFFUSER		BFD04006/001
28	- ROD	TC	BFA06108/001
		TL	BFA06106/001
29	- GASKET		BFG02009/1
30	- FLANGE		BFF01002
31	- GASKET	ø 92	BFG02011
32	- ANTIJAMMING FILTER	D.E.M.	S132/3
33	- PROTECTION		BFC03039/5
34	- REAR DISC		BFD01012/001

TC = SHORT HEAD TL = LONG HEAD



N°	DESCRIPTION	MINOR 4.1 cr code	MINOR 4.1 R cr code
1	- OIL PUMP	SUNTEC AS 47 K	P122
		DANFOSS BFP 21 R3	P121/71
2	- COIL	SUNTEC	V504
		DANFOSS	V510/2
3	- OIL VALVE	SUNTEC	V410
		DANFOSS	V412/1
4	- COUPLING	AEG	MP504
5	- NIPPLE		BFR01103/001
6	- HOSES	TN 6 x 700	S906
7	- FILTER	ART.70451-006PG	S105
8	- COVER		BFC09052
9	- MOTOR	75 W AEG	M181
10	- CAPACITOR	3 µF x 75W	C107/9
11	- IGNITION TRANSFORMER	LANDIS TQ031A27	T136
		DANFOSS CM	T130
		COFI E820 CM	T120
12	- CONTROL BOX BASE	LANDIS	A402
13	- CONTROL BOX	LANDIS LOA 24	A117/1
14	- PHOTORESISTOR	LANDIS	A208/5
15	- WIRING TERMINAL BOX		E228/2
16	- PROTECTION BOX		BFC02007
17	- FAN	120 x 60	BFV10053/001
18	- AIR CONVEYOR		GRMP005
19	- AIR DAMPER		BFC04011/001
20	- COVER AIR INLET		BFC04017
21	- CABLES	TC	BFE01401/1
		TL	BFE01401/2
22	- ELECTRODES	x COFI	BFE01101
		x Danfoss/Landis	BFE01102
23	- BLAST TUBE	TC	BFB01253/102
		TL	BFB01253/202
24	- FIRING HEAD	TC	
		TL	
25	- NOZZLE HOLDER SUPPORT		BFC10020/001
26	- NOZZLE HOLDER		BFC11016
		Danfoss 030N1218	-
27	- DIFFUSER		BFD04006/001
28	- ROD	TC	BFA06108/001
		TL	BFA06106/001
29	- GASKET		BFG02009/1
30	- FLANGE		BFF01002
31	- GASKET	ø 92	BFG02011
32	- ANTIJAMMING FILTER	D.E.M.	S132/3
33	- PROTECTION		-
34	- REAR DISC		BFD01012/001
35	- SHIELD		BFC07101/117
36	- HOUSING		BFC06101/011

TC = SHORT HEAD TL = LONG HEAD

N°	DESCRIPTION	MINOR 8.1 code	MINOR 8.1 R code
1	- OIL PUMP	SUNTEC AS 47 K	P122
		DANFOSS BFP 21 R3	P121/71
2	- COIL	SUNTEC	V504
		DANFOSS	V510/2
3	- OIL VALVE	SUNTEC	V410
		DANFOSS	V412/1
4	- COUPLING	AEG	MP504
5	- NIPPLE		BFR01103/001
6	- HOSES	TN 6 x 700	S906
7	- FILTER	ART.70451-006PG	S105
8	- COVER		BFC09052
9	- MOTOR	100 W AEG	M181/2
10	- CAPACITOR	4 µF x 100 W	C107/10
11	- IGNITION TRANSFORMER	LANDIS TQ031A27	T136
		DANFOSS CM	T130
		COFI E820 CM	T120
12	- CONTROL BOX BASE	LANDIS	A402
13	- CONTROL BOX	LANDIS LOA 24	A117/1
14	- PHOTORESISTOR	LANDIS	A207/1
15	- WIRING TERMINAL BOX		E228/2
16	- PROTECTION BOX		BFC09011/1
17	- FAN	124 x 60	BFV10055/001
18	- AIR CONVEYOR		GRMP005/1
19	- AIR DAMPER		BFC04011/001
20	- COVER AIR INLET		BFC04017
21	- CABLES	TC	BFE01401/1
		TL	BFE01401/2
22	- ELECTRODES	x COFI	BFE01101
		x Danfoss/Landis	BFE01102
23	- BLAST TUBE	TC	BFB01211/102
		TL	BFB01211/202
24	- FIRING HEAD	TC	
		TL	
25	- NOZZLE HOLDER SUPPORT		BFC10020/001
26	- NOZZLE HOLDER		BFC11016
		Danfoss 030N1218	-
27	- DIFFUSER		BFD04010/001
28	- ROD	TC	BFA06105/001
		TL	BFA06104/001
29	- GASKET		BFG02009/1
30	- FLANGE		BFF01002
31	- GASKET	ø 92	BFG02011
32	- ANTIJAMMING FILTER	D.E.M.	S132/3

TC = SHORT HEAD TL = LONG HEAD

N°	DESCRIPTION	MINOR 8.1 cr code	MINOR 8.1 R cr code
1	- OIL PUMP	SUNTEC AS 47 K	P122
		DANFOSS BFP 21 R3	P121/71
2	- COIL	SUNTEC	V504
		DANFOSS	V510/2
3	- OIL VALVE	SUNTEC	V410
		DANFOSS	V412/1
4	- COUPLING	AEG	MP504
5	- NIPPLE		BFR01103/001
6	- HOSES	TN 6 x 700	S906
7	- FILTER	ART.70451-006PG	S105
8	- COVER		BFC09052
9	- MOTOR	100 W AEG	M181/2
10	- CAPACITOR	4 µF x 100 W	C107/10
11	- IGNITION TRANSFORMER	LANDIS TQ031A27	T136
		DANFOSS CM	T130
		COFI E820 CM	T120
12	- CONTROL BOX BASE	LANDIS	A402
13	- CONTROL BOX	LANDIS LOA 24	A117/1
14	- PHOTORESISTOR	LANDIS	A207/2
15	- WIRING TERMINAL BOX		E228/2
16	- PROTECTION BOX		BFC02007
17	- FAN	124 x 60	BFV10055/001
18	- AIR CONVEYOR		GRMP005/1
19	- AIR DAMPER		BFC04011/001
20	- COVER AIR INLET		BFC04017
21	- CABLES	TC	BFE01401/1
		TL	BFE01401/2
22	- ELECTRODES	x COFI	BFE01101
		x Danfoss/Landis	BFE01102
23	- BLAST TUBE	TC	BFB01211/102
		TL	BFB01211/202
24	- FIRING HEAD	TC	
		TL	
25	- NOZZLE HOLDER SUPPORT		BFC10020/001
26	- NOZZLE HOLDER		BFC11016
		Danfoss 030N1218	-
27	- DIFFUSER		BFD04010/001
28	- ROD	TC	BFA06105/001
		TL	BFA06104/001
29	- GASKET		BFG02009/1
30	- FLANGE		BFF01002
31	- GASKET	ø 92	BFG02011
32	- ANTIJAMMING FILTER	D.E.M.	S132/3
33	- SHIELD		BFC07101/117
34	- HOUSING		BFC06101/011

TC = SHORT HEAD TL = LONG HEAD

N°	DESCRIPTION	MINOR 12.1 code	MINOR 12.1 R code
1	- OIL PUMP	SUNTEC AS 47 K	P122
		DANFOSS BFP 21 R3	P121/71
2	- COIL	SUNTEC	V504
		DANFOSS	V510/2
3	- OIL VALVE	SUNTEC	V410
		DANFOSS	V412/1
4	- COUPLING	AEG	MP504
5	- NIPPLE		BFR01103/001
6	- HOSES	TN 6x700	S906
7	- FILTER	ART.70451-006PG	S105
8	- COVER		BFC09052
9	- MOTOR	130 W AEG	M181/3
10	- CAPACITOR	4 µF x 130W	C107/10
11	- IGNITION TRANSFORMER	LANDIS TQ031A27	T136
		DANFOSS CM	T130
		COFI E820 CM	T120
12	- CONTROL BOX BASE	LANDIS	A402
13	- CONTROL BOX	LANDIS LOA 24	A117/1
14	- PHOTORESISTOR	LANDIS	A207/1
15	- WIRING TERMINAL BOX		E228/2
16	- PROTECTION BOX		BFC09011/1
17	- FAN	124 x 60	BFV10055/001
18	- AIR CONVEYOR		GRMP006/1
19	- AIR DAMPER		BFC04011/001
20	- COVER AIR INLET		BFC04004
21	- CABLES	TC	BFE01401/2
		TL	BFE01401/3
22	- ELECTRODES	x COFI	BFE01101
		x Danfoss/Landis	BFE01102
23	- BLAST TUBE	TC	BFB01202/102
		TL	BFB01202/202
24	- FIRING HEAD	TC	
		TL	
25	- NOZZLE HOLDER SUPPORT		BFC10020/001
26	- NOZZLE HOLDER		BFC11016
		Danfoss 030N1218	-
27	- DIFFUSER		BFD04011/201
28	- ROD	TC	BFA06103/101
		TL	BFA06103/201
29	- GASKET		BFG02009/1
30	- FLANGE		BFF01002
31	- GASKET	ø 92	BFG02011
32	- ANTIJAMMING FILTER	D.E.M.	S132/3

TC = SHORT HEAD TL = LONG HEAD

N°	DESCRIPTION	MINOR 12.1 cr code	MINOR 12.1 R cr code
1	- OIL PUMP	SUNTEC AS 47 K	P122
		DANFOSS BFP 21 R3	P121/71
2	- COIL	SUNTEC	V504
		DANFOSS	V510/2
3	- OIL VALVE	SUNTEC	V410
		DANFOSS	V412/1
4	- COUPLING	AEG	MP504
5	- NIPPLE		BFR01103/001
6	- HOSES	TN 6x700	S906
7	- FILTER	ART.70451-006PG	S105
8	- COVER		BFC09052
9	- MOTOR	130 W AEG	M181/3
10	- CAPACITOR	4 $\mu$ F x 130W	C107/10
11	- IGNITION TRANSFORMER	LANDIS TQ031A27	T136
		DANFOSS CM	T130
		COFI E820 CM	T120
12	- CONTROL BOX BASE	LANDIS	A402
13	- CONTROL BOX	LANDIS LOA 24	A117/1
14	- PHOTORESISTOR	LANDIS	A207/1
15	- WIRING TERMINAL BOX		E228/2
16	- PROTECTION BOX		BFC02007
17	- FAN	124 x 60	BFV10055/001
18	- AIR CONVEYOR		GRMP006/1
19	- AIR DAMPER		BFC04011/001
20	- COVER AIR INLET		BFC04004
21	- CABLES	TC	BFE01401/1
		TL	BFE01401/2
22	- ELECTRODES	x COFI	BFE01101
		x Danfoss/Landis	BFE01102
23	- BLAST TUBE	TC	BFB01202/102
		TL	BFB01202/202
24	- FIRING HEAD	TC	
		TL	
25	- NOZZLE HOLDER SUPPORT		BFC10020/001
26	- NOZZLE HOLDER		BFC11016
		Danfoss 030N1218	-
27	- DIFFUSER		BFD04011/201
28	- ROD	TC	BFA06103/101
		TL	BFA06103/201
29	- GASKET		BFG02009/1
30	- FLANGE		BFF01002
31	- GASKET	$\varnothing$ 92	BFG02011
32	- ANTIJAMMING FILTER	D.E.M.	S132/3
33	- SHIELD		BFC07101/117
34	- HOUSING		BFC06101/011

TC = SHORT HEAD TL = LONG HEAD

N°	DESIGNATION	MINOR 4.1 code	MINOR 4.1 R code
1	- POMPE COMPLETE	SUNTEC AS 47 K	P122
		DANFOSS BFP 21 R3	P121/71
2	- BOBINE ELECTROVANNE	SUNTEC	V504
		DANFOSS	V510/2
3	- VANNE	SUNTEC	V410
		DANFOSS	V412/1
4	- JOINT D'ACCOUPEMEN	AEG	MP504
5	- MAMELONS		BFR01103/001
6	- FLEXIBLES	TN 6 x 700	S906
7	- FILTRE	ART.70451-006PG	S105
8	- COUVERCLE		BFC09052
9	- MOTEUR	75 W AEG	M181
10	- CONDENSATEUR	3 µF x 75W	C107/9
11	- TRANSFORMATEUR	LANDIS TQ031A27	T136
		DANFOSS CM	T130
		COFI E820 CM	T120
12	- SOCLE DE COFFRET	LANDIS	A402
13	- COFFRET DE SECURITE	LANDIS LOA 24	A117/1
14	- CELLULE	LANDIS	A208/3
15	- BORNES		E228/2
16	- COUVERCLE DE BORNES		BFC09011/1
17	- TURBINE	120 x 60	BFV10053/001
18	- CONVOYEUR D'AIR		GRMP005
19	- REGLAGE D'AIR SORTIE		-
20	- VOLET D'AIR		GRCA030
21	- CABLE HT	TC	BFE01401/1
		TL	BFE01401/2
22	- ELECTRODE	x COFI	BFE01101
		x Danfoss/Landis	BFE01102
23	- GUEULARD	TC	BFB01253/102
		TL	BFB01253/202
24	- TETE DE COMBUSTION	TC	
		TL	
25	- SUPPORT PORTE GICLEUR		BFC10020/001
26	- PORTE GICLEUR		BFC11016
		Danfoss 030N1218	-
27	- DEFLECTEUR		BFD04006/001
28	- SUPPORT	TC	BFA06108/001
		TL	BFA06106/001
29	- JOINT DE BRULEUR		BFG02009/1
30	- BRIDE		BFF01002
31	- JOINT DE BRULEUR	ø 92	BFG02011
32	- FILTRE ANTIPARASITES	D.E.M.	S132/3
33	- PROTECTION		BFC03039/5
34	- DISQUE POSTERIEUR		BFD01012/001

TC = TETE COURTE TL = TETE LONGUE

N°	DESIGNATION	MINOR 4.1 cr code	MINOR 4.1 R cr code
1	- POMPE COMPLETE	SUNTEC AS 47 K	P122
		DANFOSS BFP 21 R3	P121/71
2	- BOBINE ELECTROVANNE	SUNTEC	V504
		DANFOSS	V510/2
3	- VANNE	SUNTEC	V410
		DANFOSS	V412/1
4	- JOINT D'ACCOUPEMEN	AEG	MP504
5	- MAMELONS		BFR01103/001
6	- FLEXIBLES	TN 6 x 700	S906
7	- FILTRE	ART.70451-006PG	S105
8	- COUVERCLE		BFC09052
9	- MOTEUR	75 W AEG	M181
10	- CONDENSATEUR	3 µF x 75W	C107/9
11	- TRANSFORMATEUR	LANDIS TQ031A27	T136
		DANFOSS CM	T130
		COFI E820 CM	T120
12	- SOCLE DE COFFRET	LANDIS	A402
13	- COFFRET DE SECURITE	LANDIS LOA 24	A117/1
14	- CELLULE	LANDIS	A208/5
15	- BORNES		E228/2
16	- COUVERCLE DE BORNES		BFC02007
17	- TURBINE	120 x 60	BFV10053/001
18	- CONVOYEUR D'AIR		GRMP005
19	- REGLAGE D'AIR SORTIE		BFC04011/001
20	- VOLET D'AIR		BFC04017
21	- CABLE HT	TC	BFE01401/1
		TL	BFE01401/2
22	- ELECTRODE	x COFI	BFE01101
		x Danfoss/Landis	BFE01102
23	- GUEULARD	TC	BFB01253/102
		TL	BFB01253/202
24	- TETE DE COMBUSTION	TC	
		TL	
25	- SUPPORT PORTE GICLEUR		BFC10020/001
26	- PORTE GICLEUR		BFC11016
		Danfoss 030N1218	-
			PP110
27	- DEFLECTEUR		BFD04006/001
28	- SUPPORT	TC	BFA06108/001
		TL	BFA06106/001
29	- JOINT DE BRULEUR		BFG02009/1
30	- BRIDE		BFF01002
31	- JOINT DE BRULEUR	ø 92	BFG02011
32	- FILTRE ANTIPARASITES	D.E.M.	S132/3
33	- PROTECTION		-
34	- DISQUE POSTERIEUR		BFD01012/001
35	- SUPPORT CAPOT		BFC07101/117
36	- CAPOT		BFC06101/011

TC = TETE COURTE    TL = TETE LONGUE

N°	DESIGNATION	MINOR 8.1 code	MINOR 8.1 R code
1	- POMPE COMPLETE	SUNTEC AS 47 K	P122
		DANFOSS BFP 21 R3	P121/71
2	- BOBINE ELECTROVANNE	SUNTEC	V504
		DANFOSS	V510/2
3	- VANNE	SUNTEC	V410
		DANFOSS	V412/1
4	- JOINT D'ACCOUPEMEN	AEG	MP504
5	- MAMELONS		BFR01103/001
6	- FLEXIBLES	TN 6 x 700	S906
7	- FILTRE	ART.70451-006PG	S105
8	- COUVERCLE		BFC09052
9	- MOTEUR	100 W AEG	M181/2
10	- CONDENSATEUR	4 µF x 100 W	C107/10
11	- TRANSFORMATEUR	LANDIS TQ031A27	T136
		DANFOSS CM	T130
		COFI E820 CM	T120
12	- SOCLE DE COFFRET	LANDIS	A402
13	- COFFRET DE SECURITE	LANDIS LOA 24	A117/1
14	- CELLULE	LANDIS	A207/1
15	- BORNES		E228/2
16	- COUVERCLE DE BORNES		BFC09011/1
17	- TURBINE	124 x 60	BFV10055/001
18	- CONVOYEUR D'AIR		GRMP005/1
19	- REGLAGE D'AIR SORTIE		BFC04011/001
20	- VOLET D'AIR		BFC04017
21	- CABLE HT	TC	BFE01401/1
		TL	BFE01401/2
22	- ELECTRODE	x COFI	BFE01101
		x Danfoss/Landis	BFE01102
23	- GUEULARD	TC	BFB01211/102
		TL	BFB01211/202
24	- TETE DE COMBUSTION	TC	
		TL	
25	- SUPPORT PORTE GICLEUR		BFC10020/001
26	- PORTE GICLEUR		BFC11016
		Danfoss 030N1218	-
			PP110
27	- DEFLECTEUR		BFD04010/001
28	- SUPPORT	TC	BFA06105/001
		TL	BFA06104/001
29	- JOINT DE BRULEUR		BFG02009/1
30	- BRIDE		BFF01002
31	- JOINT DE BRULEUR	ø 92	BFG02011
32	- FILTRE ANTIPARASITES	D.E.M.	S132/3

TC = TETE COURTE TL = TETE LONGUE



N°	DESIGNATION	MINOR 8.1 cr code	MINOR 8.1 R cr code
1	- POMPE COMPLETE	SUNTEC AS 47 K	P122
		DANFOSS BFP 21 R3	P121/71
2	- BOBINE ELECTROVANNE	SUNTEC	V504
		DANFOSS	V510/2
3	- VANNE	SUNTEC	V410
		DANFOSS	V412/1
4	- JOINT D'ACCOUPEMEN	AEG	MP504
5	- MAMELONS		BFR01103/001
6	- FLEXIBLES	TN 6 x 700	S906
7	- FILTRE	ART.70451-006PG	S105
8	- COUVERCLE		BFC09052
9	- MOTEUR	100 W AEG	M181/2
10	- CONDENSATEUR	4 µF x 100 W	C107/10
11	- TRANSFORMATEUR	LANDIS TQ031A27	T136
		DANFOSS CM	T130
		COFI E820 CM	T120
12	- SOCLE DE COFFRET	LANDIS	A402
13	- COFFRET DE SECURITE	LANDIS LOA 24	A117/1
14	- CELLULE	LANDIS	A207/2
15	- BORNES		E228/2
16	- COUVERCLE DE BORNES		BFC02007
17	- TURBINE	124 x 60	BFV10055/001
18	- CONVOYEUR D'AIR		GRMP005/1
19	- REGLAGE D'AIR SORTIE		BFC04011/001
20	- VOLET D'AIR		BFC04017
21	- CABLE HT	TC	BFE01401/1
		TL	BFE01401/2
22	- ELECTRODE	x COFI	BFE01101
		x Danfoss/Landis	BFE01102
23	- GUEULARD	TC	BFB01211/102
		TL	BFB01211/202
24	- TETE DE COMBUSTION	TC	
		TL	
25	- SUPPORT PORTE GICLEUR		BFC10020/001
26	- PORTE GICLEUR		BFC11016
		Danfoss 030N1218	-
27	- DEFLECTEUR		BFD04010/001
28	- SUPPORT	TC	BFA06105/001
		TL	BFA06104/001
29	- JOINT DE BRULEUR		BFG02009/1
30	- BRIDE		BFF01002
31	- JOINT DE BRULEUR	ø 92	BFG02011
32	- FILTRE ANTIPARASITES	D.E.M.	S132/3
33	- SUPPORT CAPOT		BFC07101/117
34	- CAPOT		BFC06101/011

TC = TETE COURTE      TL = TETE LONGUE

N°	DESIGNATION	MINOR 12.1 code	MINOR 12.1 R code
1	- POMPE COMPLETE	SUNTEC AS 47 K	P122
		DANFOSS BFP 21 R3	P121/71
2	- BOBINE ELECTROVANNE	SUNTEC	V504
		DANFOSS	V510/2
3	- VANNE	SUNTEC	V410
		DANFOSS	V412/1
4	- JOINT D'ACCOUPEMEN	AEG	MP504
5	- MAMELONS		BFR01103/001
6	- FLEXIBLES	TN 6x700	S906
7	- FILTRE	ART.70451-006PG	S105
8	- COUVERCLE		BFC09052
9	- MOTEUR	130 W AEG	M181/3
10	- CONDENSATEUR	4 µF x 130W	C107/10
11	- TRANSFORMATEUR	LANDIS TQ031A27	T136
		DANFOSS CM	T130
		COFI E820 CM	T120
12	- SOCLE DE COFFRET	LANDIS	A402
13	- COFFRET DE SECURITE	LANDIS LOA 24	A117/1
14	- CELLULE	LANDIS	A207/1
15	- BORNES		E228/2
16	- COUVERCLE DE BORNES		BFC09011/1
17	- TURBINE	124 x 60	BFV10055/001
18	- CONVOYEUR D'AIR		GRMP006/1
19	- REGLAGE D'AIR SORTIE		BFC04011/001
20	- VOLET D'AIR		BFC04004
21	- CABLE HT	TC	BFE01401/2
		TL	BFE01401/3
22	- ELECTRODE	x COFI	BFE01101
		x Danfoss/Landis	BFE01102
23	- GUEULARD	TC	BFB01202/102
		TL	BFB01202/202
24	- TETE DE COMBUSTION	TC	
		TL	
25	- SUPPORT PORTE GICLEUR		BFC10020/001
26	- PORTE GICLEUR		BFC11016
		Danfoss 030N1218	-
27	- DEFLECTEUR		BFD04011/201
28	- SUPPORT	TC	BFA06103/101
		TL	BFA06103/201
29	- JOINT DE BRULEUR		BFG02009/1
30	- BRIDE		BFF01002
31	- JOINT DE BRULEUR	ø 92	BFG02011
32	- FILTRE ANTIPARASITES	D.E.M.	S132/3

TC = TETE COURTE TL = TETE LONGUE

N°	DESIGNATION	MINOR 12.1 cr code	MINOR 12.1 R cr code
1	- POMPE COMPLETE	SUNTEC AS 47 K	P122
		DANFOSS BFP 21 R3	P121/71
2	- BOBINE ELECTROVANNE	SUNTEC	V504
		DANFOSS	V510/2
3	- VANNE	SUNTEC	V410
		DANFOSS	V412/1
4	- JOINT D'ACCOUPEMEN	AEG	MP504
5	- MAMELONS		BFR01103/001
6	- FLEXIBLES	TN 6x700	S906
7	- FILTRE	ART.70451-006PG	S105
8	- COUVERCLE		BFC09052
9	- MOTEUR	130 W AEG	M181/3
10	- CONDENSATEUR	4 µF x 130W	C107/10
11	- TRANSFORMATEUR	LANDIS TQ031A27	T136
		DANFOSS CM	T130
		COFI E820 CM	T120
12	- SOCLE DE COFFRET	LANDIS	A402
13	- COFFRET DE SECURITE	LANDIS LOA 24	A117/1
14	- CELLULE	LANDIS	A207/1
15	- BORNES		E228/2
16	- COUVERCLE DE BORNES		BFC02007
17	- TURBINE	124 x 60	BFV10055/001
18	- CONVOYEUR D'AIR		GRMP006/1
19	- REGLAGE D'AIR SORTIE		BFC04011/001
20	- VOLET D'AIR		BFC04004
21	- CABLE HT	TC	BFE01401/1
		TL	BFE01401/2
22	- ELECTRODE	x COFI	BFE01101
		x Danfoss/Landis	BFE01102
23	- GUEULARD	TC	BFB01202/102
		TL	BFB01202/202
24	- TETE DE COMBUSTION	TC	
		TL	
25	- SUPPORT PORTE GICLEUR		BFC10020/001
26	- PORTE GICLEUR		BFC11016
		Danfoss 030N1218	-
27	- DEFLECTEUR		BFD04011/201
28	- SUPPORT	TC	BFA06103/101
		TL	BFA06103/201
29	- JOINT DE BRULEUR		BFG02009/1
30	- BRIDE		BFF01002
31	- JOINT DE BRULEUR	ø 92	BFG02011
32	- FILTRE ANTIPARASITES	D.E.M.	S132/3
33	- SUPPORT CAPOT		BFC07101/117
34	- CAPOT		BFC06101/011

TC = TETE COURTE    TL = TETE LONGUE

Nº	DESCRIPCIÓN	MINOR 4.1 código	MINOR 4.1 R código
1	- POMPA		
	SUNTEC AS 47 K	P122	P122
	DANFOSS BFP 21 R3	P121/71	P121/71
2	- BOBINA		
	SUNTEC	V504	V504
	DANFOSS	V510/2	V510/2
3	- VALVULA		
	SUNTEC	V410	V410
	DANFOSS	V412/1	V412/1
4	- ACOPLAMIENTO		
	AEG	MP504	MP504
5	- TUERCA		
		BFR01103/001	BFR01103/001
6	- LATIGUILLOS		
	TN 6 x 700	S906	S906
7	- FILTRO		
	ART.70451-006PG	S105	S105
8	- TAPA		
		BFC09052	BFC09052
9	- MOTOR		
	75 W AEG	M181	M181
10	- CONDENSADOR		
	3 µF x 75W	C107/9	C107/9
11	- TRANSFORMADOR		
	LANDIS TQ031A27	T136	T136
	DANFOSS CM	T130	T130
	COFI E820 CM	T120	T120
12	- BASE DEL EQUIPO		
	LANDIS	A402	A402
13	- EQUIPO CONTROL LLAMA		
	LANDIS LOA 24	A117/1	A117/1
14	- FOTORRESISTENCIA		
	LANDIS	A208/3	A208/3
15	- REGLETA DE CONEXIÓN		
		E228/2	E228/2
16	- CAJA DE PROTECCIÓN		
		BFC09011/1	BFC09011/1
17	- VENTILADOR		
	120 x 60	BFV10053/001	BFV10053/001
18	- REJILLA DEFLECTORA		
		GRMP005	GRMP005
19	- REGISTRO AIRE		
		-	-
20	- CIERRE EN ASPIRACIÓN		
		GRCA030	GRCA030
21	- CABLES		
	TC	BFE01401/1	BFE01401/1
	TL	BFE01401/2	BFE01401/2
22	- ELECTRODOS		
	x COFI	BFE01101	BFE01101
	x Danfoss/Landis	BFE01102	BFE01102
23	- TUBO LLAMA		
	TC	BFB01253/102	BFB01253/102
	TL	BFB01253/202	BFB01253/202
24	- CABEZA DE COMBUSTIÓN		
	TC		
	TL		
25	- SOPORTE PORTAINYECTOR		
		BFC10020/001	BFC10021/001
26	- PORTAINYECTOR		
		BFC11016	-
	Danfoss 030N1218	-	PP110
27	- DIFUSOR		
		BFD04006/001	BFD04006/001
28	- SOPORTE CABEZA DE COMBUSTIÓN		
	TC	BFA06108/001	BFA06108/001
	TL	BFA06106/001	BFA06106/001
29	- JUNTA		
		BFG02009/1	BFG02009/1
30	- BRIDA		
		BFF01002	BFF01002
31	- JUNTA		
	ø 92	BFG02011	BFG02011
32	- FILTRO ANTITRATORNO		
	D.E.M.	S132/3	S132/3
33	- PROTECCIÓN		
		BFC03039/5	BFC03039/5
34	- DISCO POSTERIOR		
		BFD01012/001	BFD01012/001

TC = CABEZA CORTA TL = CABEZA LARGA

Nº	DESCRIPCIÓN	MINOR 4.1 cr código	MINOR 4.1 R cr código
1	- POMPA	SUNTEC AS 47 K	P122
		DANFOSS BFP 21 R3	P121/71
2	- BOBINA	SUNTEC	V504
		DANFOSS	V510/2
3	- VALVULA	SUNTEC	V410
		DANFOSS	V412/1
4	- ACOPLAMIENTO	AEG	MP504
5	- TUERCA		BFR01103/001
6	- LATIGUILLOS	TN 6 x 700	S906
7	- FILTRO	ART.70451-006PG	S105
8	- TAPA		BFC09052
9	- MOTOR	75 W AEG	M181
10	- CONDENSADOR	3 µF x 75W	C107/9
11	- TRANSFORMADOR	LANDIS TQ031A27	T136
		DANFOSS CM	T130
		COFI E820 CM	T120
12	- BASE DEL EQUIPO	LANDIS	A402
13	- EQUIPO CONTROL LLAMA	LANDIS LOA 24	A117/1
14	- FOTORRESISTENCIA	LANDIS	A208/5
15	- REGLETA DE CONEXIÓN		E228/2
16	- CAJA DE PROTECCIÓN		BFC02007
17	- VENTILADOR	120 x 60	BFV10053/001
18	- REJILLA DEFLECTORA		GRMP005
19	- REGISTRO AIRE		BFC04011/001
20	- CIERRE EN ASPIRACIÓN		BFC04017
21	- CABLES	TC	BFE01401/1
		TL	BFE01401/2
22	- ELECTRODOS	x COFI	BFE01101
		x Danfoss/Landis	BFE01102
23	- TUBO LLAMA	TC	BFB01253/102
		TL	BFB01253/202
24	- CABEZA DE COMBUSTIÓN	TC	
		TL	
25	- SOPORTE PORTAINYECTOR		BFC10020/001
26	- PORTAINYECTOR		BFC11016
		Danfoss 030N1218	-
27	- DIFUSOR		BFD04006/001
28	- SOPORTE CABEZA DE COMBUSTIÓN	TC	BFA06108/001
		TL	BFA06106/001
29	- JUNTA		BFG02009/1
30	- BRIDA		BFF01002
31	- JUNTA	ø 92	BFG02011
32	- FILTRO ANTITRATORNO	D.E.M.	S132/3
33	- PROTECCIÓN		-
34	- DISCO POSTERIOR		BFD01012/001
35	- ESCUDO		BFC07101/117
36	- CARENADURA		BFC06101/011

TC = CABEZA CORTA TL = CABEZA LARGA

N°	DESCRIPCIÓN	MINOR 8.1 código	MINOR 8.1 R código
1	- POMPA	SUNTEC AS 47 K	P122
		DANFOSS BFP 21 R3	P121/71
2	- BOBINA	SUNTEC	V504
		DANFOSS	V510/2
3	- VALVULA	SUNTEC	V410
		DANFOSS	V412/1
4	- ACOPLAMIENTO	AEG	MP504
5	- TUERCA		BFR01103/001
6	- LATIGUILLOS	TN 6 x 700	S906
7	- FILTRO	ART.70451-006PG	S105
8	- TAPA		BFC09052
9	- MOTOR	100 W AEG	M181/2
10	- CONDENSADOR	4 µF x 100 W	C107/10
11	- TRANSFORMADOR	LANDIS TQ031A27	T136
		DANFOSS CM	T130
		COFI E820 CM	T120
12	- BASE DEL EQUIPO	LANDIS	A402
13	- EQUIPO CONTROL LLAMA	LANDIS LOA 24	A117/1
14	- FOTORRESISTENCIA	LANDIS	A207/1
15	- REGLETA DE CONEXIÓN		E228/2
16	- CAJA DE PROTECCIÓN		BFC09011/1
17	- VENTILADOR	124 x 60	BFV10055/001
18	- REJILLA DEFLECTORA		GRMP005/1
19	- REGISTRO AIRE		BFC04011/001
20	- CIERRE EN ASPIRACIÓN		BFC04017
21	- CABLES	TC	BFE01401/1
		TL	BFE01401/2
22	- ELECTRODOS	x COFI	BFE01101
		x Danfoss/Landis	BFE01102
23	- TUBO LLAMA	TC	BFB01211/102
		TL	BFB01211/202
24	- CABEZA DE COMBUSTIÓN	TC	
		TL	
25	- SOPORTE PORTAINYECTOR		BFC10020/001
26	- PORTAINYECTOR		BFC11016
		Danfoss 030N1218	-
27	- DIFUSOR		BFD04010/001
28	- SOPORTE CABEZA DE COMBUSTIÓN	TC	BFA06105/001
		TL	BFA06104/001
29	- JUNTA		BFG02009/1
30	- BRIDA		BFF01002
31	- JUNTA	ø 92	BFG02011
32	- FILTRO ANTITRATORNO	D.E.M.	S132/3

TC = CABEZA CORTA TL = CABEZA LARGA

Nº	DESCRIPCIÓN	MINOR 8.1 cr código	MINOR 8.1 R cr código
1	- POMPA	SUNTEC AS 47 K	P122
		DANFOSS BFP 21 R3	P121/71
2	- BOBINA	SUNTEC	V504
		DANFOSS	V510/2
3	- VALVULA	SUNTEC	V410
		DANFOSS	V412/1
4	- ACOPLAMIENTO	AEG	MP504
5	- TUERCA		BFR01103/001
6	- LATIGUILLOS	TN 6 x 700	S906
7	- FILTRO	ART.70451-006PG	S105
8	- TAPA		BFC09052
9	- MOTOR	100 W AEG	M181/2
10	- CONDENSADOR	4 µF x 100 W	C107/10
11	- TRANSFORMADOR	LANDIS TQ031A27	T136
		DANFOSS CM	T130
		COFI E820 CM	T120
12	- BASE DEL EQUIPO	LANDIS	A402
13	- EQUIPO CONTROL LLAMA	LANDIS LOA 24	A117/1
14	- FOTORRESISTENCIA	LANDIS	A207/2
15	- REGLETA DE CONEXIÓN		E228/2
16	- CAJA DE PROTECCIÓN		BFC02007
17	- VENTILADOR	124 x 60	BFV10055/001
18	- REJILLA DEFLECTORA		GRMP005/1
19	- REGISTRO AIRE		BFC04011/001
20	- CIERRE EN ASPIRACIÓN		BFC04017
21	- CABLES	TC	BFE01401/1
		TL	BFE01401/2
22	- ELECTRODOS	x COFI	BFE01101
		x Danfoss/Landis	BFE01102
23	- TUBO LLAMA	TC	BFB01211/102
		TL	BFB01211/202
24	- CABEZA DE COMBUSTIÓN	TC	
		TL	
25	- SOPORTE PORTAINYECTOR		BFC10020/001
26	- PORTAINYECTOR		BFC11016
		Danfoss 030N1218	-
			PP110
27	- DIFUSOR		BFD04010/001
28	- SOPORTE CABEZA DE COMBUSTIÓN	TC	BFA06105/001
		TL	BFA06104/001
29	- JUNTA		BFG02009/1
30	- BRIDA		BFF01002
31	- JUNTA	ø 92	BFG02011
32	- FILTRO ANTITRATORNO	D.E.M.	S132/3
33	- ESCUDO		BFC07101/117
34	- CARENADURA		BFC06101/011

TC = CABEZA CORTA TL = CABEZA LARGA

N°	DESCRIPCIÓN	MINOR 12.1 código	MINOR 12.1 R código
1	- POMPA	SUNTEC AS 47 K	P122
		DANFOSS BFP 21 R3	P121/71
2	- BOBINA	SUNTEC	V504
		DANFOSS	V510/2
3	- VALVULA	SUNTEC	V410
		DANFOSS	V412/1
4	- ACOPLAMIENTO	AEG	MP504
5	- TUERCA		BFR01103/001
6	- LATIGUILLOS	TN 6x700	S906
7	- FILTRO	ART.70451-006PG	S105
8	- TAPA		BFC09052
9	- MOTOR	130 W AEG	M181/3
10	- CONDENSADOR	4 µF x 130W	C107/10
11	- TRANSFORMADOR	LANDIS TQ031A27	T136
		DANFOSS CM	T130
		COFI E820 CM	T120
12	- BASE DEL EQUIPO	LANDIS	A402
13	- EQUIPO CONTROL LLAMA	LANDIS LOA 24	A117/1
14	- FOTORRESISTENCIA	LANDIS	A207/1
15	- REGLETA DE CONEXIÓN		E228/2
16	- CAJA DE PROTECCIÓN		BFC09011/1
17	- VENTILADOR	124 x 60	BFV10055/001
18	- REJILLA DEFLECTORA		GRMP006/1
19	- REGISTRO AIRE		BFC04011/001
20	- CIERRE EN ASPIRACIÓN		BFC04004
21	- CABLES	TC	BFE01401/2
		TL	BFE01401/3
22	- ELECTRODOS	x COFI	BFE01101
		x Danfoss/Landis	BFE01102
23	- TUBO LLAMA	TC	BFB01202/102
		TL	BFB01202/202
24	- CABEZA DE COMBUSTIÓN	TC	
		TL	
25	- SOPORTE PORTAINYECTOR		BFC10020/001
26	- PORTAINYECTOR		BFC11016
		Danfoss 030N1218	-
27	- DIFUSOR		BFD04011/201
28	- SOPORTE CABEZA DE COMBUSTIÓN	TC	BFA06103/101
		TL	BFA06103/201
29	- JUNTA		BFG02009/1
30	- BRIDA		BFF01002
31	- JUNTA	ø 92	BFG02011
32	- FILTRO ANTITRATORNO	D.E.M.	S132/3

TC = CABEZA CORTA TL = CABEZA LARGA



Nº	DESCRIPCIÓN	MINOR 12.1 cr código	MINOR 12.1 R cr código
1	- POMPA	SUNTEC AS 47 K	P122
		DANFOSS BFP 21 R3	P121/71
2	- BOBINA	SUNTEC	V504
		DANFOSS	V510/2
3	- VALVULA	SUNTEC	V410
		DANFOSS	V412/1
4	- ACOPLAMIENTO	AEG	MP504
5	- TUERCA		BFR01103/001
6	- LATIGUILLOS	TN 6x700	S906
7	- FILTRO	ART.70451-006PG	S105
8	- TAPA		BFC09052
9	- MOTOR	130 W AEG	M181/3
10	- CONDENSADOR	4 µF x 130W	C107/10
11	- TRANSFORMADOR	LANDIS TQ031A27	T136
		DANFOSS CM	T130
		COFI E820 CM	T120
12	- BASE DEL EQUIPO	LANDIS	A402
13	- EQUIPO CONTROL LLAMA	LANDIS LOA 24	A117/1
14	- FOTORRESISTENCIA	LANDIS	A207/1
15	- REGLETA DE CONEXIÓN		E228/2
16	- CAJA DE PROTECCIÓN		BFC02007
17	- VENTILADOR	124 x 60	BFV10055/001
18	- REJILLA DEFLECTORA		GRMP006/1
19	- REGISTRO AIRE		BFC04011/001
20	- CIERRE EN ASPIRACIÓN		BFC04004
21	- CABLES	TC	BFE01401/1
		TL	BFE01401/2
22	- ELECTRODOS	x COFI	BFE01101
		x Danfoss/Landis	BFE01102
23	- TUBO LLAMA	TC	BFB01202/102
		TL	BFB01202/202
24	- CABEZA DE COMBUSTIÓN	TC	
		TL	
25	- SOPORTE PORTAINYECTOR		BFC10020/001
26	- PORTAINYECTOR		BFC11016
		Danfoss 030N1218	-
			PP110
27	- DIFUSOR		BFD04011/201
28	- SOPORTE CABEZA DE COMBUSTIÓN	TC	BFA06103/101
		TL	BFA06103/201
29	- JUNTA		BFG02009/1
30	- BRIDA		BFF01002
31	- JUNTA	ø 92	BFG02011
32	- FILTRO ANTITRATORNO	D.E.M.	S132/3
33	- ESCUDO		BFC07101/117
34	- CARENADURA		BFC06101/011

TC = CABEZA CORTA TL = CABEZA LARGA







**ANOMALIE DI FUNZIONAMENTO / TROUBLESHOOTING**  
**ANOMALIES DE FONCTIONNEMENT/ANOMALIAS DE FUNCIONAMIENTO**

**Il bruciatore non si avvia / The burner does not start / Le brûleur ne démarre pas / El quemador no arranca.**

- Interruttore generale in posizione "0" / Main switch in "0" position / Interrupteur général en position "0" / Interruptor general en posición "0"
- Fusibili saltati / Fuses are blown / Fusibles brûlés / Fusibles quemados.
- Termostati caldaia aperti / Boiler thermostats are in open position / Thermostats chaudière ouverts / Termostatos de caldera abiertos.
- Apparecchiatura di controllo difettosa / Control box is defective / Coffret de sécurité défectueux / Equipo de control averiado.

**Il bruciatore effettua il prelavaggio, ma non si accende e va in blocco subito dopo / The burner runs the prepurging but does not ignite and then switches into safety condition / Le brûleur effectue le prebalayage mais ne s'allume pas, par la suite se met en sécurité / El quemador efectúa el prebarrido pero no se enciende y después se pone en seguridad.**

- Apparecchiatura di controllo difettosa / Control box is defective / Coffret de sécurité défectueux / Equipo de control averiado
- Trasformatore difettoso / Ignition transformer is defective / Transformateur défectueux / Transformador averiado.
- Elettrodi sporchi / Electrodes are dirty / Electrodes sales / Electrodos sucios.
- Elettrodi difettosi / Electrodes are defective / Electrodes défectueux / Electrodos averiados.
- Elettrodi in posizione errata / Electrodes are in wrong position / Electrodes en position erronée / Electrodos en posición errónea.
- Ugello otturato / Nozzle is clogged / Gicleur bouché / Inyector obstruido.
- Ugello eccessivamente usurato / Nozzle is too worn / Gicleur excessivement usé / Inyectore demasiado desgastado.
- Filtri intasati / Filters are clogged / Filtres bouchés / Filtros obstruidos.
- Pressione gasolio troppo bassa / Oil pressure too low / Pression fioul trop faible / Presión del gasóleo demasiado baja.
- Portata d'aria di combustione eccessivamente elevata in rapporto alla portata dell'ugello / Combustion air flow rate excessively high related to nozzle's flow rate / Portée de l'air comburant trop élevée par rapport à la portée du gicleur / Caudal del aire de combustión demasiado alta en relación al caudal del inyector.

**Il bruciatore si accende ma va in blocco subito dopo / The burner ignites but then switches into safety condition / Le brûleur s'allume mais se met en de sécurité peu après / El quemador se enciende pero se pone pronto en seguridad**

- Apparecchiatura di controllo difettosa / Control box is defective / Coffret de sécurité défectueux / Equipo de control averiado.
- Ugello otturato / Nozzle is clogged / Gicleur bouché / Inyector obstruido.
- Ugello eccessivamente usurato / Nozzle is too worn / Gicleurs excessivement usés / Inyectore demasiado desgastado.
- La fotocellula non vede la fiamma / The photocell does not detect the flame / La photocellule n'aperçoit pas la flamme / La fotorresistencia no percibe la llama.
- Filtri intasati / Filters are clogged / Filtres bouchés / Filtros obstruidos.
- Pressione gasolio troppo bassa / Oil pressure too low / Pression fioul trop faible / Presión gasóleo demasiado baja.
- Portata d'aria di combustione eccessivamente elevata in rapporto alla portata dell'ugello / Portée de l'air comburant trop élevée par rapport à la portée du gicleur / Caudal del aire de combustión demasiado alta en relación al caudal del inyector.



A series of horizontal lines for writing, consisting of a solid top line, a dotted midline, and a solid bottom line, repeated down the page.







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