

# LANEMARK INTERNATIONAL

## PROCESS BURNER DIVISION SPARE PARTS MANUAL



FD "C" Mark 4

FD "E" Mark 4

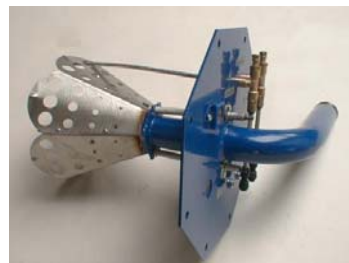


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### FD OVEN BURNER SYSTEM

**SECTION 1  
BURNER BODIES**



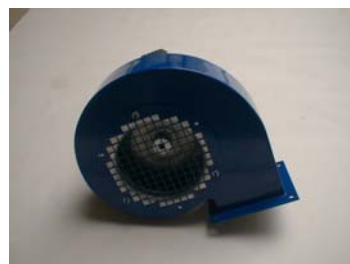
**SECTION 2  
CONTROL PANELS**



**SECTION 3  
GAS TRAINS**

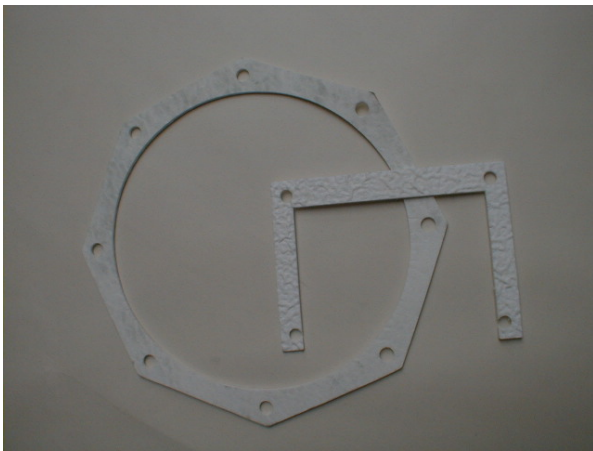


**SECTION 4  
FANS**



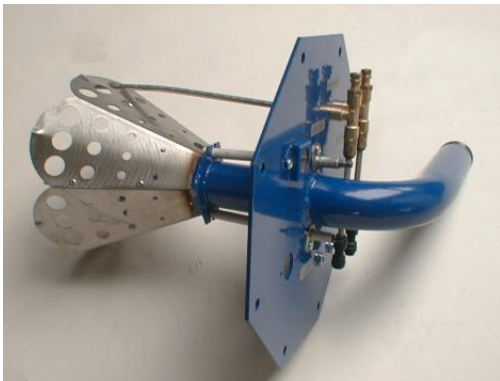


MODEL	<u>Burner Body MK III &amp; IV</u>
FD5	52260
FD10	52270
FD15	52280
FD20	52259



MODEL	<u>Octagon Flange Gasket</u>
FD5	50710
FD10	50707
FD15	50708
FD20	50709

MODEL	<u>Air Inlet Gasket</u>
FD5	50714
FD10	50715
FD15	50716
FD20	50717



<u>Back Plate Assembly Complete MkIII &amp;IV*</u>		
MODEL	Natural Gas	Propane
FD5	1040166	1040167
FD10	1040168	1040169
FD15	1040170	1040171
FD20	HEAD 50220	HEAD 50220

These have stainless steel cones for normal low temperature applications, for flame sensing by flame electrode.

For high temperature applications burner heads with special high temperature alloy cones have been produced.

For flame sensing by UV cell, assemblies have been produced.

Please see for part numbers.

### IGNITION



### FLAME SENSING



LANDIS

SATRONIC



### FD Mk2 used up to mid 1993 J7000

MODEL	Flame Sensing	Ignition
FD5	16017	16013
FD10	16018	16014
FD15	16037	16036
FD20	16037	16036

### FD MkIII & MkIV Burner ignition & flame sensing probes

MODEL	Flame Sensing	Ignition
FD5	16031	16030
FD10	16033	16032
FD15	16035	16034
FD20	16037	16036

### FD Burner ignition & flame sensing plug caps

Ignition	13032
Flame sensing	13033

### FD Burner ignition & flame cable ( sold per metre )

Cable	71001
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### FD Burner UV Cells ( they are for 110V & 230V )

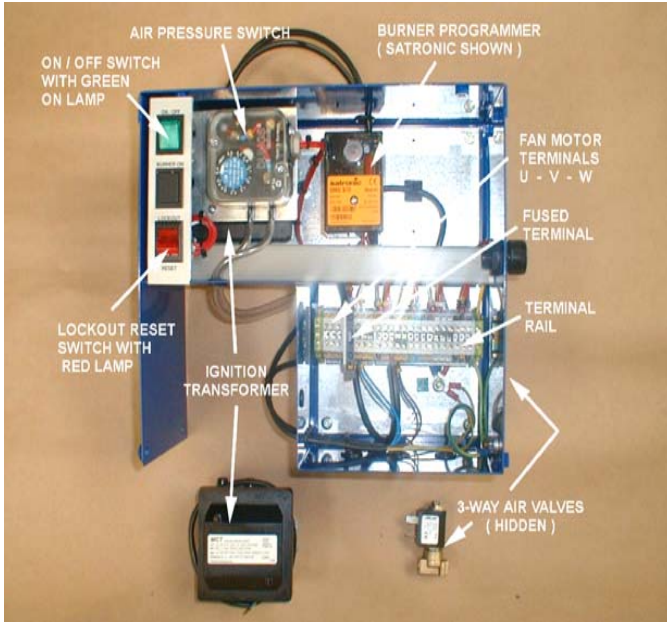
Satronic UVZ780 Red Spot ( Satronic make 3 grades, red, white and blue—red is the best quality )	13043
Landis QRA2	13045

### FD5,10 &15 MkIV Burner sight glass assembly

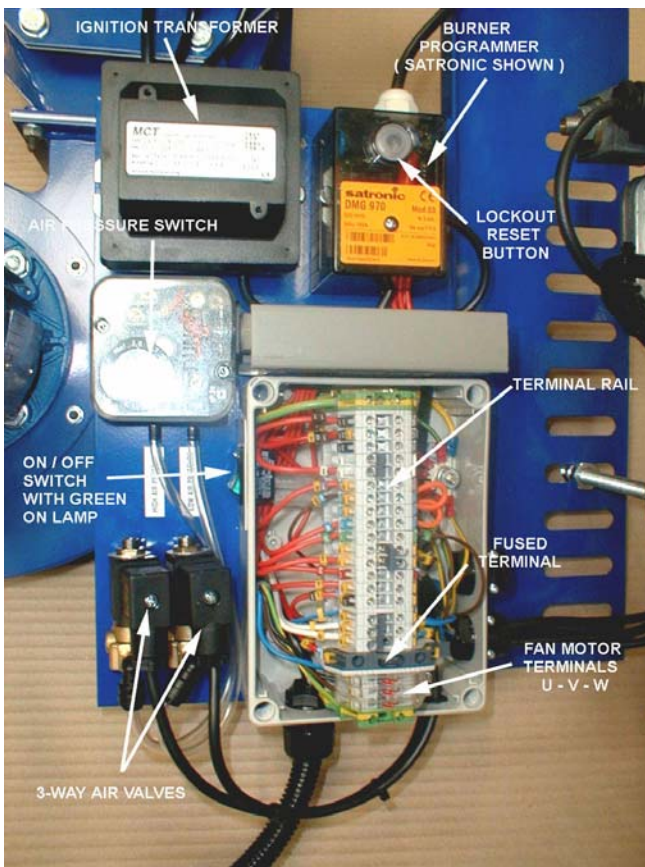
Site glass holder	52285
Site glass lens	52333
Gasket	52332

### FD20 Mk2.75 Burner sight glass assembly

Site glass holder	50809
Site glass lens	30010
Gasket	50711



FD-C Panel



FD-E Panel





SATRONIC TMG SERIES	SATRONIC SERIES MMI / MMG / DMG	LANDIS LFL & LGB SERIES	HONEYWELL 7600 SERIES
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<b>Control Boxes and Bases</b>			
MODEL	Base only	110V	230V
Satronic TMG740-3	12021	12017	12016
Satronic MMG810	13115	n/a	12094
Satronic MMI 810	13115	12058	12041
Satronic TFI series	The TFI 812/852 series are obsolete PN 12042/12043/12051		
Satronic DMG 970	13115	13118	13117
Landis LFL1.335	12032	12034	12033
Landis LGB22	13127	n/a	13223
Honeywell 7600	This box is made up of a box, purge card, flame amplifier card and others. See Job Plan.		

The part numbers are for standard boxes supplied in the UK. There are slightly different variants available that were used on some European export jobs. See Job Plan for details. There are a small number of other box suppliers and types that have been used on a one off basis.



<b>UV &amp; IR Cells for DMG970 box</b>	
UVD971 end view 230V	13036
UVD971 side view 230V	13195 discontinued
IRD1020 end view 230V	13037
IRD820 end view 110V	13255



<b>FR870 Remote reset device for MMG &amp; MMI box</b>	
FR870 230V	12040
FR870 110V	12086



Ignition Transformer ( heavy wire wound )	
Brahma 110V ( used on earlier TX )	12037
Brahma 230V ( used on earlier TX )	12036



Ignition Transformer ( heavy wire wound )	
Satronic / MCT 110V (used on later TX and FD )	13022
Satronic / MCT 230V ( used on later TX and FD)	13023



Ignition Transformer ( light electronic )	
Brahma 110V ( used on earlier FD )	12071
Brahma 230V ( used on earlier FD )	12070



Ignition Transformer ( light electronic )	
Satronic ZT815 110V (used on TRX )	12023
Satronic ZT812 230V ( used on TRX)	12018



Air Pressure Switch	
Dungs LGW50A2 Range 2.5 to 50 mbar (Used mainly on TX burners)	12027
Dungs LGW10A2 Range 1 to 10 mbar (Used mainly on TRX/TX burners)	12031
Dungs LGW3A2 Range 0.4 to 3 mbar ( Used mainly on FD burners ).	12028
Dungs KS150C2 Range 20-150 Pascals ( used on Duct Burners )	10463



3-Way Air Valve	
3-Way Air Valve Complete 110V	10032
3-Way Air Valve Complete 230V	10031
*Spare Coil 110V	*10029
*Spare Coil 230V	*10030
Lead with mini DIN plug length 560mm PN 73040	

\* Several different makes of 3-way air valve have been supplied. We therefore recommend a complete new unit is ordered or the new coil may not fit.



Fuse	
Main Fuse 3.15Amp Type F 20x5 mm	13041
Auxiliary Fuse 1 Amp Type F 20x5 mm	13050



Eagle Digital Temperature Controller	
Eagle 1048D Temperature Controller 110V and 230V Supply	12004
11 Pin DIN Rail Mounting Base for Eagle 1048D	12005
11 Pin Base for front panel mounting of Eagle 1048D	12010



DOUBLE



Control Relays			
MODEL	Base only	110V	230V
Double	13210	13211	13212
Single	13205	13200	13201

Other voltages for input / output have been supplied  
e.g. 24V dc and 24 V AC.

SINGLE





**Rocker Switch with green neon for ON/OFF**

110V	13082
230V	13080



**Rocker Switch with red neon for Lock-out/Reset**

110V	13083
230V	13081



**Plastic PVC Pipe 6mm OD by 4mm ID**

Black	71221
Clear	71220



**Sundry Brass Fittings—Screw In**

1/8"x1/8" nipple	52339
1/8"BSP x 6mm stud	52336
1/8" tee	52335
1/8" pressure test point	22030

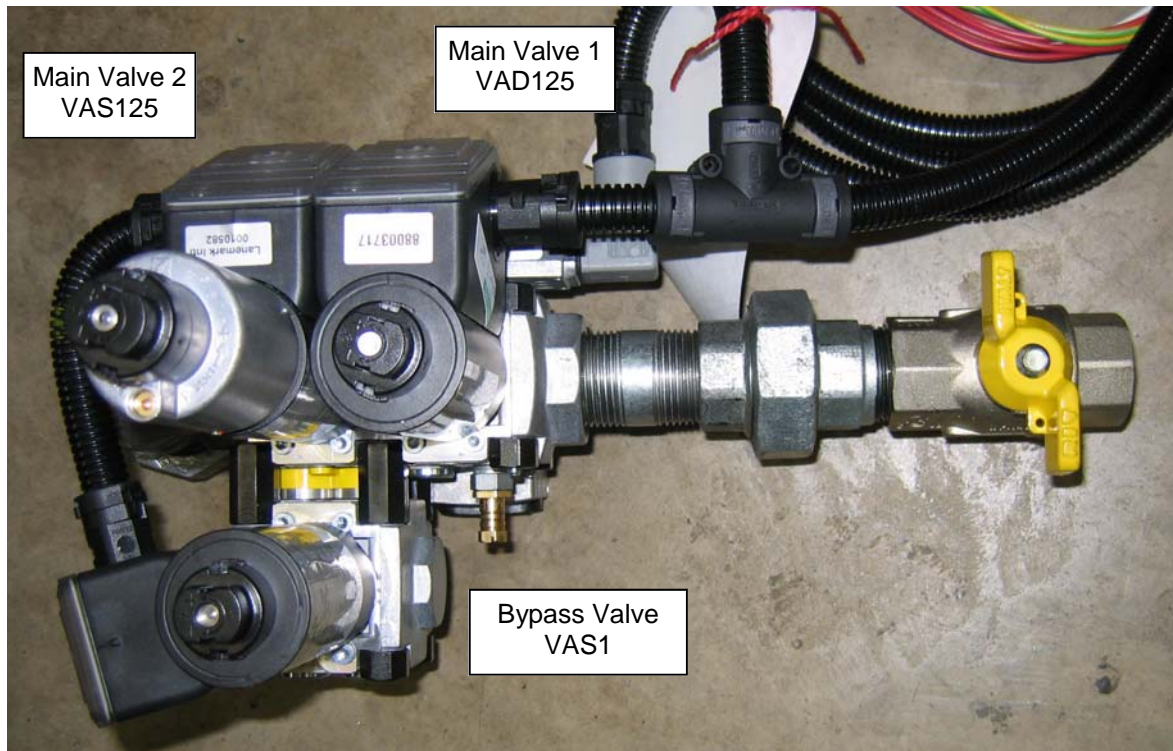


**Sundry Push In Fittings**

1/8"x 6mm stud	52338
Black 6mm x 6mm connector	52334
Tee	10024
1/8" x 6mm swivel elbow	22062

## Kromschroder Gas Trains

### Typical Picture showing VCD1 1" Gas Train



Note:- The VCV1 1" looks similar but without the slow opening section on Main Valve 2. Additionally there are VCD2 / VCV2 1½" Gas Trains with larger main valves but the same bypass.

### **DEFINITIONS:-**

#### **VAD (High / Low or Modulating Gas)**

Constant pressure governor for shut-off and precise control of the gas supply to burners. This is always the first valve (V1).

#### **VAV (Modulating Gas and Air)**

A variable air/gas ratio control for maintaining a constant gas/air pressure ratio for modulating controlled burners. This is always the second valve (V2).

#### **VAS (Secondary Valve and Bypass / Pilot)**

Solenoid valve for safeguarding gas supply to the burner.

A slow opening VAS is used as the second valve (V2) for High/Low or Modulating Gas Control.

A fast opening VAS is used as the first valve (V1) for Mod Gas and Air Control.

A VAS1 is used as the standard bypass valve.

#### **VBY (High / Low / Ultra Low)**

Solenoid valve for safeguarding gas supply to the burner.

This is used for Ultra Low gas settings when the firing rate is lower than the required start gas rate..

## Kromschroder Valve Blocks

### VCD 1 & 2 Gas Valve Block for High / Low and Gas Modulating Controls



The Valve Blocks comprise a VAD125 or VAD240 Gas Valve (V1) with a VAS125 or VAS240 Gas Valve (V2) and a DG40 Low Gas Pressure Switch.

Any additional bypasses or pressure switches will be supplied separately.

Gas Block	Part No.	
	110V	230V
VCD1 1"	10582	10583
VCD2 1½"	10586	10587

### VCV 1 & 2 Gas Valve Block for Gas & Air Modulating Controls



The Valve Blocks comprise a VAS125 or VAS240 Gas Valve (V1) with a VAV125 or VAV240 Gas Valve (V2) and a DG40 Low Gas Pressure Switch.

Any additional bypasses or pressure switches will be supplied separately.

Gas Block	Part No.	
	110V	230V
VCV1 1"	10901	10902
VCV2 1½"	10903	10904

### VAS1 Gas Valve Block (Bypass)



Gas Block	Part No.	
	110V	230V
VAS1	10594	10595

The VAS1 is the standard bypass valve.

Identify if the Mounting Kit is required

- See Kromschroder Spare Parts for details.

### VBY Gas Valve Block (Bypass)



Gas Block	Part No.	
	110V	230V
VBY	10590	10591

The VBY is only used as a Ultra Low bypass valve.

## Kromschroder Spare Parts

### Actuators



Actuator	Part No.	
	110V	230V
VA1	10772	10771
VA2	10774	10773

VA1 Actuator is used for VCD1 and VCV1 Valve Blocks.  
VA2 Actuator is used for VCD2 and VCV2 Valve Blocks.



Actuator	Part No.	
	110V	230V
VBY	10778	10779

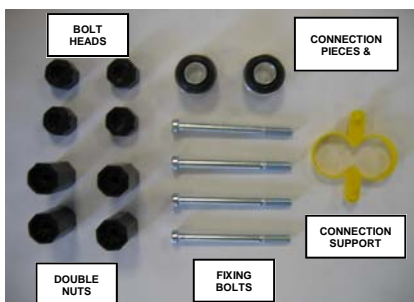
The VBY is only used as a Ultra Low bypass valve.

### Pressure Switches



Pressure Switch	Part No.
<b>DG40/VC-6W</b> 5 to 40 mbar Standard	10777
<b>DG110/VC-6W</b> 30 to 110 mbar Special	10781

### Mounting Kits



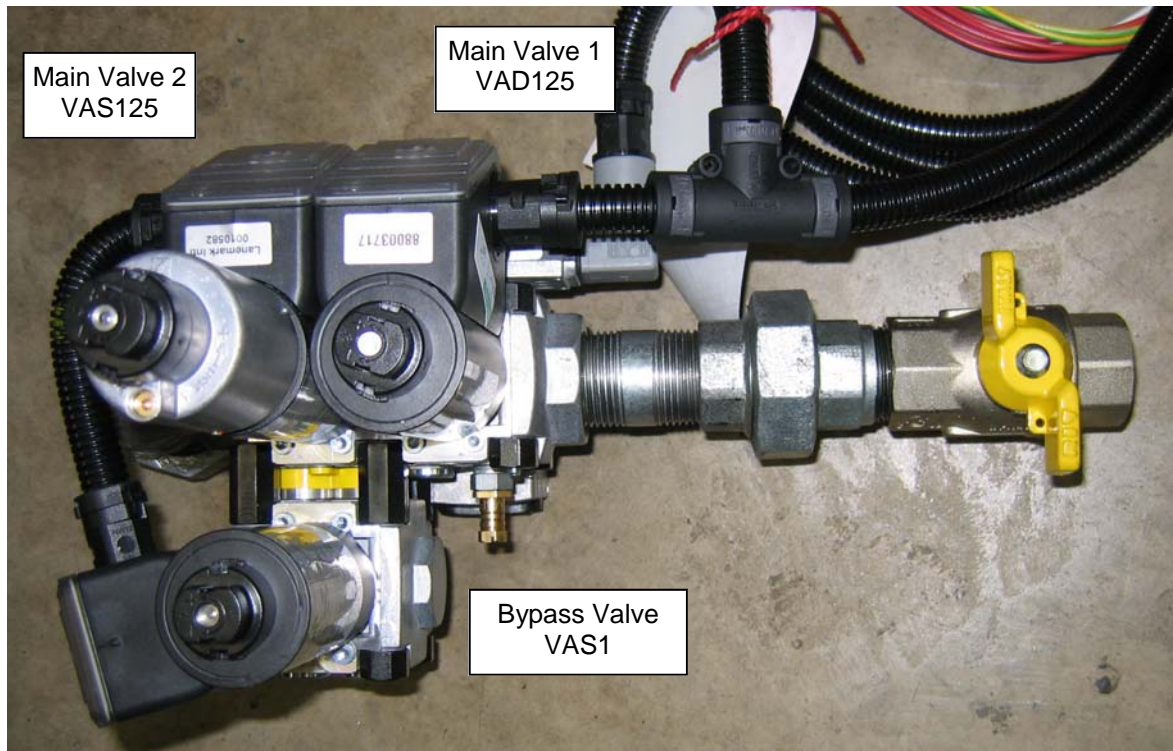
Mounting Kit	Part No.
VAS1 to VA1	10678
VAS1 to VA2	10679

The mounting kits will only be supplied if an additional bypass is to be fitted. VA1 refers to VAS1 or VCD1 or VCV1 size valves and the VA2 refers to VAS2 or VCD2 or VCV2 size valves.



## Kromschroder Gas Trains

### Typical Picture showing VCD1 1" Gas Train



Note:- The VCV1 1" looks similar but without the slow opening section on Main Valve 2. Additionally there are VCD2 / VCV2 1½" Gas Trains with larger main valves but the same bypass.

### **DEFINITIONS:-**

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A variable air/gas ratio control for maintaining a constant gas/air pressure ratio for modulating controlled burners. This is always the second valve (V2).

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Solenoid valve for safeguarding gas supply to the burner.

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Gas Block	Part No.	
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VCV1 1"	10901	10902
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Gas Block	Part No.	
	110V	230V
VBY	10590	10591

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## Kromschroder Spare Parts

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VA2 Actuator is used for VCD2 and VCV2 Valve Blocks.



Actuator	Part No.	
	110V	230V
VBY	10778	10779

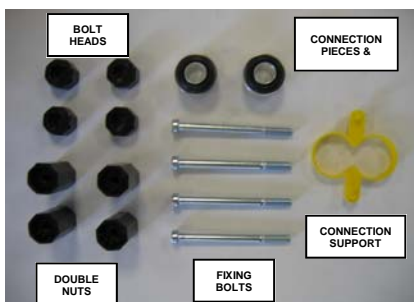
The VBY is only used as a Ultra Low bypass valve.

### Pressure Switches



Pressure Switch	Part No.
<b>DG40/VC-6W</b> 5 to 40 mbar Standard	10777
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Mounting Kit	Part No.
VAS1 to VA1	10678
VAS1 to VA2	10679

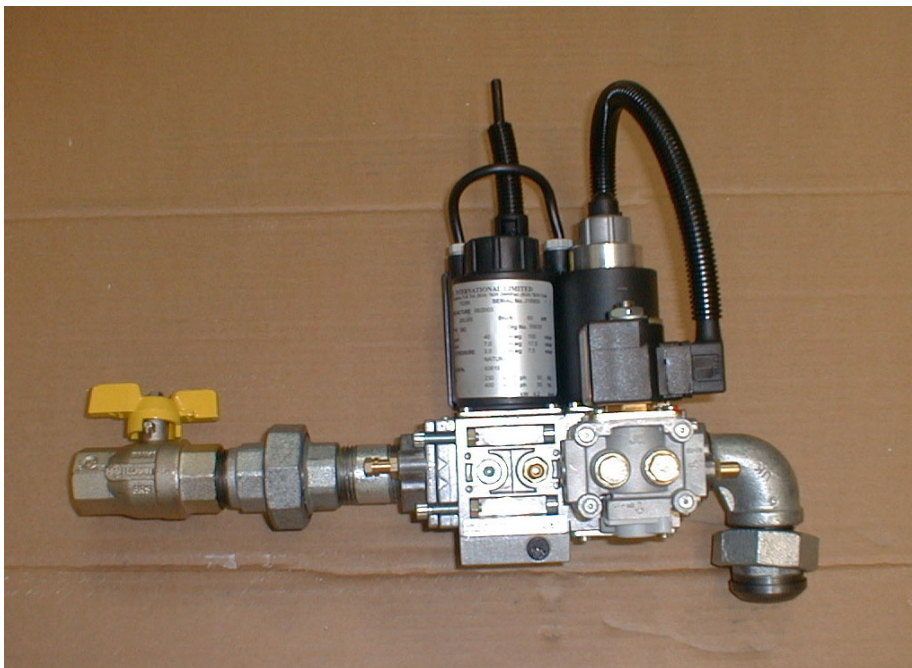
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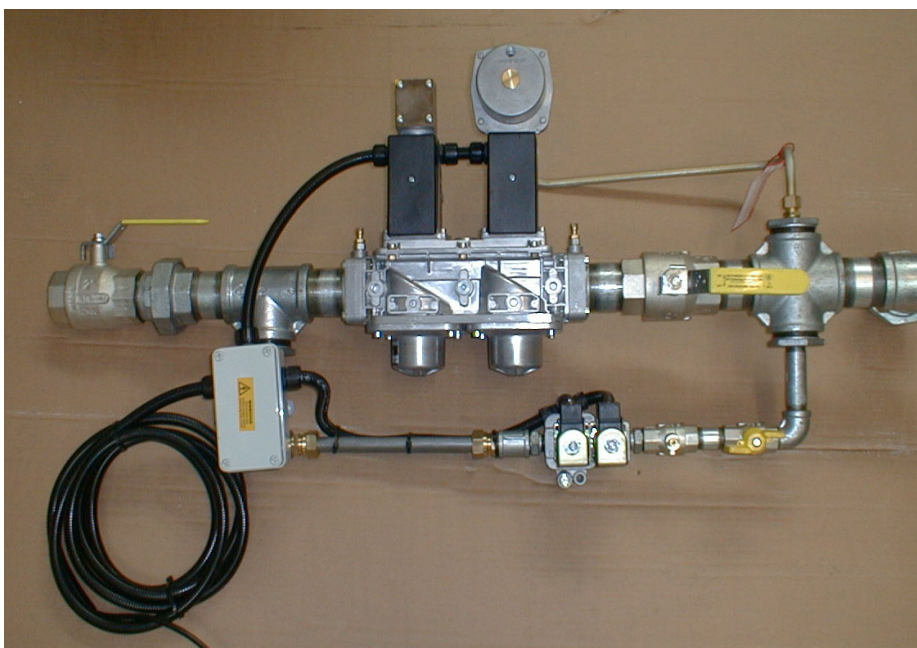
Over the years many different types of gas valve have been used and different styles of gas train to suit the customer's requirements.

Below are two typical arrangements.

Typical gas train using a Johnson GM2 with a bolt on by-pass valve as the start/low gas valve.



Typical gas train using a Landis SKP10 and SKP20 as the main gas line and a Johnson G96 as the start/low gas line.





Johnson GM2 and GM4 old style—now obsolete.



Johnson GM2 and GM4 current style.

Above are pictures of the Johnson GM2 and GM4 style valves. The old style with grey ( or blue ) plastic cover is now obsolete and valves, coils and printed circuit boards are no longer available.

The new style with individual black coils have exactly the same body length and can be used as direct replacements with a minor wiring modification. The old style used a 4 pin DIN plug to make the electrical connections and the new style have a terminal block inside the cover.

		OLD STYLE	NEW STYLE
GM2 SERIES 110V	Lanemark part no.	10413	10516
	Johnson part no.	GM 2032 0240	GM 2041 2000
	Johnson part no.	GM 2041 0000	-
GM2 SERIES 230V	Lanemark part no.	10403	10514
	Johnson part no.	GM 2031 0240	GM 2040 2000
	Johnson part no.	GM 2040 9001	-
GM4 SERIES 110V	Lanemark part no.	10415	10520
	Johnson part no.	GM 4452 0240	GM 4041 3000
	Johnson part no.	GM 4041 1000	-
GM4 SERIES 230V	Lanemark part no.	10405	10518
	Johnson part no.	GM 4451 0240	GM 4040 3000
	Johnson part no.	GM 4040 9003	-

VALVE ( new & old style )	FLANGE SIZE	JOHNSON PART NO	LANEMARK PART NO
GM2	3/4"	GO 0023 0000	10510
	1"	GO 0024 0000	10511
GM4	1"	GO 0044 0000	10512
	1 1/2"	GO 0045 0000	10513

VALVE TYPE	SINGLE COIL	PAIR OF COILS
GM2 & GM4 110V Lanemark PN Johnson PN	10733 GO 9511 0000	10517 GO 9521 0000
GM2 & GM4 230V Lanemark PN Johnson PN	10732 GO 9510 0000	10515 GO 9520 0000





Shown is the Johnson by-pass valve that can fit onto the side of the GM2 and GM4 valve.

Originally this by-pass was handed i.e. the holes were on the left or the right hand side of the valve for the gas to enter and leave.

Later Johnson introduced a "universal" version that can be fitted to the left or the right hand side of the main valve by swapping plugs from one side of the by-pass valve to the other.

Lanemark now only supply the universal type.

**CURRENT UNIVERSAL BY-PASS VALVES FOR ALL GM2 AND GM4 SERIES**

		VALVE COMPLETE	SPARE COIL
UNIVERSAL BY-PASS	Lanemark PN	10444	10508
110V SUPPLY	Johnson PN	GO 2531 0000	S39DJA
UNIVERSAL BY-PASS	Lanemark PN	10443	10507
230V SUPPLY	Johnson PN	GO 2530 0000	S39AJA
Lead for by-pass with 3 pin DIN plug and 500mm lead.		Part No: 10461	
Lead for by-pass with 3 pin DIN plug and 1000mm lead.		Part No: 10460	

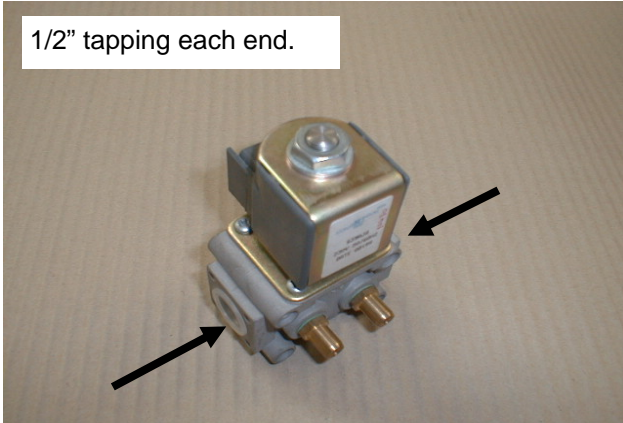
**OBSOLETE 110V BY-PASS VALVES FOR ALL GM2 AND GM4 SERIES**

		OBSOLETE 110V	UNIVERSAL EQUIVALENT
BYPASS LEFT HAND	Lanemark PN	10426	10444
	Johnson PN	GO 2131 0000	GO 2531 000
BYPASS RIGHT HAND	Lanemark PN	10425	10444
	Johnson PN	GO 2331 0000	GO 2531 000

**OBSOLETE 230V BY-PASS VALVES FOR ALL GM2 AND GM4 SERIES**

		OBSOLETE 230V	UNIVERSAL EQUIVALENT
BYPASS LEFT HAND	Lanemark PN	10421	10443
	Johnson PN	GO 2130 0000	GO 2530 000
BYPASS RIGHT HAND	Lanemark PN	10420	10443
	Johnson PN	GO 2330 0000	GO 2530 000

1/2" tapping each end.



Shown is the Johnson single seat solenoid valve that was used in pilot / start gas lines. It was used as a single valve or as a pair in a pilot line.

This valve was tapped on the inlet and the outlet 1/2" BSP.

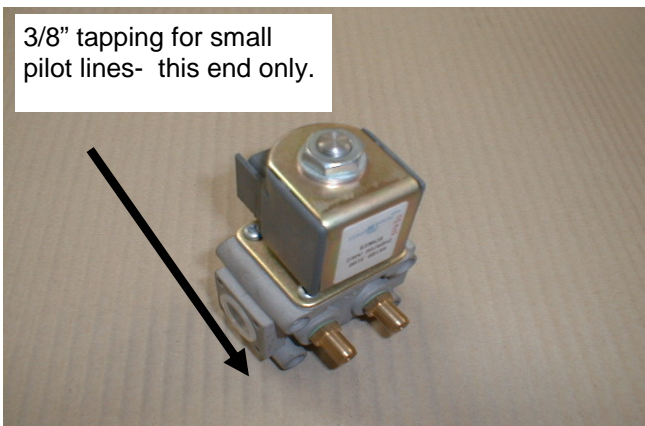
Many burners had 3/8" pilot lines and these used the 1/2" solenoid valves which were bushed down to 3/8".

A version tapped 3/8" was made the SM-705 series but Lanemark did not use it.

**JOHNSON 1/2" SINGLE SEAT SOLENOID VALVE**

		VALVE COMPLETE	SPARE COIL
Johnson 1/2" Solenoid	Lanemark PN	10429	10508
110V SUPPLY	Johnson PN	SM 706 1201 BL09	S39DJA
Johnson 1/2" Solenoid	Lanemark PN	10430	10507
230V SUPPLY	Johnson PN	SM 706 1201 BJ09	S39AJA
Lead for valve with 3 pin DIN plug and 500mm lead.		Part No: 10461	
Lead for valve with 3 pin DIN plug and 1000mm lead.		Part No: 10460	

3/8" tapping for small pilot lines- this end only.



Shown is the Johnson single seat solenoid valve that bolts onto the side of the GM2 and GM4 series.

It differs from the universal by-pass valves in that the gas flows out of a 3/8" tapping at the end and not back into the main GM2 or GM4 body.

It is generally used for small pilot lines or burners with separate pilots.

**JOHNSON EXTERNAL PILOT 3/8" SINGLE SEAT SOLENOID VALVE**

		VALVE COMPLETE	SPARE COIL
Johnson 3/8" Ext' Solenoid	Lanemark PN	10447	10508
110V SUPPLY	Johnson PN	GO 2641 0000	S39DJA
Johnson 3/8" Ext' Solenoid	Lanemark PN	10442	10507
230V SUPPLY	Johnson PN	GO 2640 0000	S39AJA
Lead for valve with 3 pin DIN plug and 500mm lead.		Part No: 10461	
Lead for valve with 3 pin DIN plug and 1000mm lead.		Part No: 10460	

Johnson G96



Shown is the Johnson G96 1/2" double solenoid valve with governor.

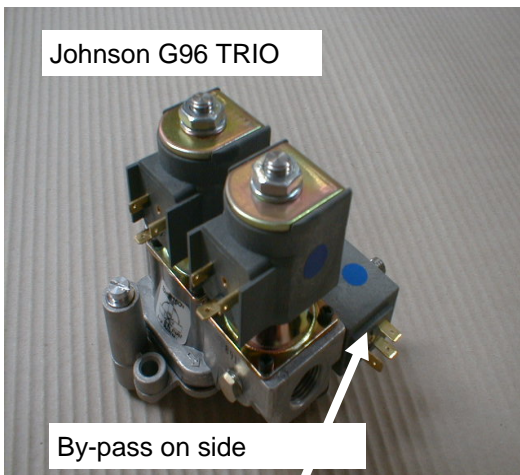
This is used as a pilot valve/low fire valve on larger burners.

For the valve the Johnson part number has had slight variations over the years as the valve has been developed.

**JOHNSON G96 1/2" DOUBLE SEAT SOLENOID VALVE WITH GOVERNOR**

		VALVE COMPLETE	SPARE COIL
Johnson G96	Lanemark PN	10485	10508
110V SUPPLY	Johnson PN	G96MG04JBR-2A	S39DJA
Johnson G96	Lanemark PN	10484	10507
230V SUPPLY	Johnson PN	G96MG04FBR-2A	S39AJA
Lead for valve with 3 pin DIN plug and 500mm lead.		Part No: 10461	
Lead for valve with 3 pin DIN plug and 1000mm lead.		Part No: 10460	

Johnson G96 TRIO



Shown is the Johnson G96 TRIO 1/2" double solenoid valve with governor and a small by-pass valve on the side. The by-pass uses a smaller coil than the two main coils.

This is used as a main valve on small burners and also on high/low/ultra-low burners.

For the valve the Johnson part number has had slight variations over the years as the valve has been developed.

**JOHNSON G96 TRIO DOUBLE SEAT SOLENOID VALVE WITH GOVERNOR AND BY-PASS VALVE**

		VALVE COMPLETE	SPARE MAIN COIL	SPARE COIL FOR BY-PASS
Johnson G96 TRIO	Lanemark PN	10483	10508	10506
110V SUPPLY	Johnson PN	G96EW04MPR-2AD	S39DJA	S29DGB
Johnson G96 TRIO	Lanemark PN	10482	10507	10505
230V SUPPLY	Johnson PN	G96MW04KPR-2AD	S39AJA	S29AGB
Lead for main coil with 3 pin DIN plug and 500mm lead.		Part No: 10461		
Lead for main coil with 3 pin DIN plug and 1000mm lead.		Part No: 10460		
Mini DIN electrical plug for the by-pass coil on the side of the G96 Trio.		Part No: 10028		

Johnson SM474 1/4" valve

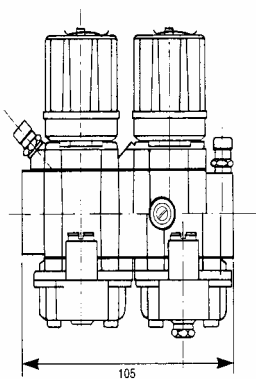


Shown is the Johnson SM474 1/4" single solenoid valve.

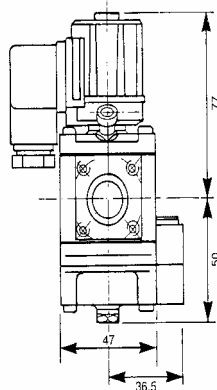
This is used as a pilot valve on small pilots and normally as a pair.

**JOHNSON SM474 1/4" SINGLE SEAT SOLENOID VALVE**

		VALVE COMPLETE	SPARE COIL
Johnson SM474	Lanemark PN	10617	10506
110V SUPPLY	Johnson PN	SM474-0700-VC01	S29DGB
Johnson SM474	Lanemark PN	10610	10505
230V SUPPLY	Johnson PN	SM474-0700-VA01	S29AGB
3 pin electrical mini DIN plug	Part No: 10028		



ALCON TK25 VALVE



Shown is the Alcon TK 25 1/2" twin seat solenoid valve with a by-pass that was used on small burners as a combined pilot and main valve.

Production of this valve was transferred to Theobold of France and valves may have the Theobold name.

Spare coils are available but complete valves are no longer available.

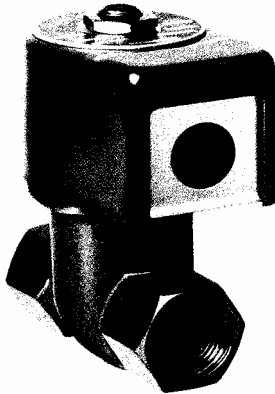
The valve was available as LEFT hand or RIGHT hand versions depending on which side the by-pass was fitted.

**ALCON TK25 DUAL SEAT 1/2" SOLENOID VALVE WITH BY-PASS**

		VALVE COMPLETE LEFT HAND	VALVE COMPLETE RIGHT HAND	SPARE COIL
Alcon TK25	Lanemark PN	10005	10006	10040
110V SUPPLY	Alcon PN	TK25SB TPTB7250	TK25SB TPTB72	TK205SB08 110V
Alcon TK25	Lanemark PN	10007	10008	10009
230V SUPPLY	Alcon PN	TK25SB TPTB725	TK25SB TPTB7251	TK25SB08 230V

Shown is the Alcon GB3 3/8" and GB4 1/2" single seat solenoid valves.

This was used in pilot/start gas lines.



ALCON GB VALVE

**ALCON GB3 3/8" SINGLE SEAT SOLENOID VALVE**

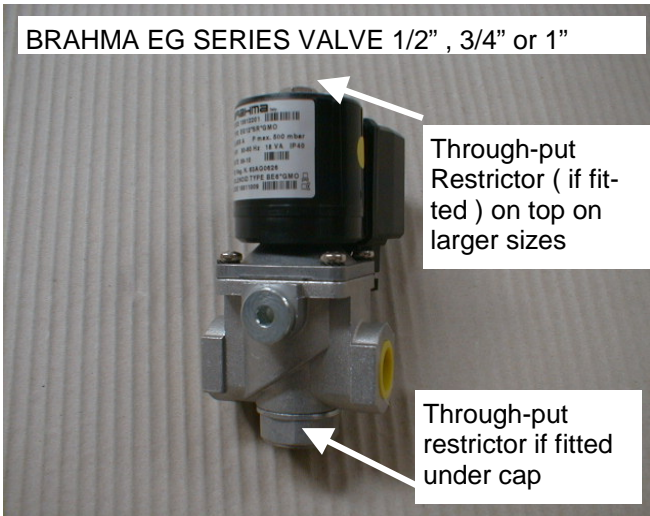
		VALVE COMPLETE	SPARE COIL
Alcon GB3 3/8" 110V SUPPLY	Lanemark PN Alcon PN	10036 GB3 3/8" 110V	10039 COIL GB3&4 110V
Alcon GB3 3/8" 230V SUPPLY	Lanemark PN Alcon PN	10034 GB3 3/8" 240V	10038 COIL GB3&4 240V

**ALCON GB3 1/2" SINGLE SEAT SOLENOID VALVE**

		VALVE COMPLETE	SPARE COIL
Alcon GB4 1/2" 110V SUPPLY	Lanemark PN Alcon PN	10037 GB4 1/2" 110V	10039 COIL GB3&4 110V
Alcon GB4 1/2" 230V SUPPLY	Lanemark PN Alcon PN	10035 GB4 1/2" 240V	10038 COIL GB3&4 240V



**BRAHMA EG SERIES VALVE 1/2" , 3/4" or 1"**



Shown is the BRAHMA EG series of single seat solenoid valves.

These were available as 1/2", 3/4" and 1" and were generally used in pilot/low fire gas lines.

Two versions were used. The EG\_\_RGMO which had a through-out restrictor or the EG\_\_LGMO which did not have the restrictor.

The 1/2" had the electrical connection by a push on electrical plug cap and the larger versions had a terminal box built into the valve coil.

\*For spares purposes only the version with the restrictor is supplied and this should be set to full open if not required.

**BRAHMA 1/2" SINGLE SEAT SOLENOID VALVE ( with and without flow through-put restrictor )**

		VALVE COMPLETE WITH RESTICTOR	*VALVE COMPLETE WITHOUT RESTRICTOR	SPARE COIL
BRAHMA 1/2" 110V SUPPLY	Lanemark PN Brahma PN	10161 EG12SRGMO-110V	10163 EG12SLGMO-110V	10171 EG12 COIL 110V
BRAHMA 1/2" 230V SUPPLY	Lanemark PN Brahma PN	10160 EG12SRGMO-240V	10162 EG12SLGMO-240V	10170 EG12 COIL 240V

**BRAHMA 3/4" SINGLE SEAT SOLENOID VALVE ( with and without flow through-put restrictor )**

		VALVE COMPLETE WITH RESTICTOR	*VALVE COMPLETE WITHOUT RESTRICTOR	SPARE COIL
BRAHMA 3/4" 110V SUPPLY	Lanemark PN Brahma PN	10165 EG25SRGMO-110V	10167 EG25SLGMO-110V	10169 EG25 COIL 110V
BRAHMA 3/4" 230V SUPPLY	Lanemark PN Brahma PN	10164 EG25SRGMO-240V	10166 EG25SLGMO-240V	10168 EG25 COIL 240V

**BRAHMA 1" SINGLE SEAT SOLENOID VALVE ( with and without flow through-put restrictor )**

		VALVE COMPLETE WITH RESTICTOR	*VALVE COMPLETE WITHOUT RESTRICTOR	SPARE COIL
BRAHMA 1" 110V SUPPLY	Lanemark PN Brahma PN	10173 EG30SRGMO-110V	10175 EG30SLGMO-110V	10177 EG30 COIL 110V
BRAHMA 1" 230V SUPPLY	Lanemark PN Brahma PN	10172 EG30SRGMO-240V	10174 EG30SLGMO-240V	10176 EG30 COIL 240V



ASCO BG VALVE

Shown is the ASCO BG series of single seat solenoid valves available in 3/8", 1/2" and 3/4" sizes.

For 1/2" gas trains the 3/4" was used with a reducing bush ( though we may have used one odd 1/2" valve the 110V only ).

We do not appear to have the spare coils on stock for the 3/8 and 1/2" sizes.

This valve was used on pilot/start gas lines.

**ASCO BG 3/8" SINGLE SEAT SOLENOID VALVE**

		VALVE COMPLETE	SPARE COIL
ASCO BG 3/8"	Lanemark PN	10022	-
110V SUPPLY	ASCO PN	BGSC8040B1 110V	-
ASCO BG 3/8"	Lanemark PN	10021	-
230V SUPPLY	ASCO PN	BGSC8040B1 240V	-

**ASCO 1/2" SINGLE SEAT SOLENOID VALVE**

		VALVE COMPLETE	SPARE COIL
ASCO BG 1/2"	Lanemark PN	10011	-
110V SUPPLY	ASCO PN	BGSC8040B2 110V	-
ASCO BG 1/24"	Lanemark PN	-	-
230V SUPPLY	ASCO PN	BGSC8040B2 240V	-

**ASCO 3/4" SINGLE SEAT SOLENOID VALVE**

		VALVE COMPLETE	SPARE COIL
ASCO BG 3/4"	Lanemark PN	10026	10013
110V SUPPLY	ASCO PN	BGSC8040B3 110V	400-902-107
ASCO BG 3/4"	Lanemark PN	10014	10012
230V SUPPLY	ASCO PN	BGSC8040B3 240V	400-429-008



Landis Flange for VGD Series

Shown is the flange for the Landis SKP series of valves.

1 1/2" flange	Lanemark PN	10189
1 off	Landis PN	AGA41
2" flange	Lanemark PN	10195
1 off	Landis PN	AGA51



Landis VGD Series Valve Body

Shown is the Landis SKP series of double seat valve bodies that accept 2 valve actuators.

1 1/2" body	Lanemark PN	10188
	Landis PN	VGD20.403
2" body	Lanemark PN	10190
	Landis PN	VGD20.503

As well as the double block VGD series valve bodies individual single valve bodies are available e.g. PN 10201 1" single Landis valve body Landis PN VGG10.254P, but to date only one has been used.

Four types of actuator can be fitted to the Landis VGD body :-

SKP10 the basic ON/Off actuator.

SKP10 two stage high/low actuator.

SKP20 On/Off actuator with a gas pressure regulator ( governor ).

SKP70 On/Off actuator with a gas and air ratio controller used on fully modulating burners.



Landis SKP70 Actuator & Ratio Controller



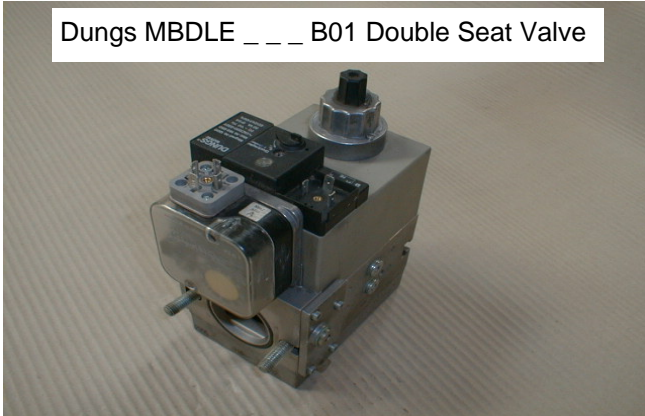
Landis SKP20 Governor & Actuator



Landis SKP10 Actuator

		SKP70 Actuator & Gas/ Air Ratio Controller	SKP20 Actuator & Governor	SKP10 On/Off Actuator	SKP10 2 stage High/Low Actuator
110V	Lanemark PN	10203	10191	10192	10198
	Landis PN	SKP70.110B17	SKP20.110B17	SKP10.110B17	SKP10.123A17
230v	Lanemark PN	10196	10193	10194	10197
	Landis PN	SKP70.110B27	SKP20.110B27	SKP10.110B27	SKP10.123A27

Dungs MBDLE \_ \_ \_ B01 Double Seat Valve



Shown is the Dungs

MBDLE \_ \_ \_ B01 110V or 240V

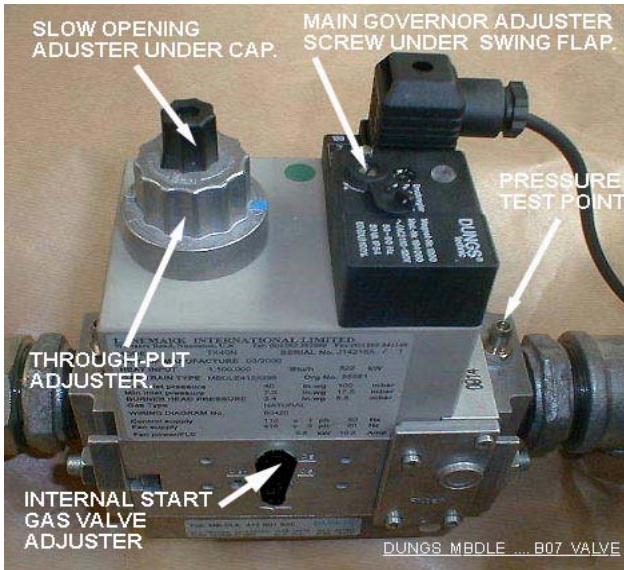
double solenoid valve with an optional low inlet gas pressure switch fitted.

This is available in sizes from 1/2" up to 2" and is used as a main valve with a separate pilot line.

The spare coil is a single block that contains two coils and the electrical circuit moulded into a single unit.

110V	ELECTRC	SUPPLY	Lanemark PN Complete Valve	Lanemark PN Spare Coil	Dungs Ref for Spare Coil
MBDLE	403	BO1	-	-	1000
MBDLE	405	BO1	10074	10083	1100
MBDLE	407	BO1	10075	10083	1100
MBDLE	410	BO1	10076	10089	1200
MBDLE	412	BO1	10077	10089	1200
MBDLE	415	BO1	-	-	1210
MBDLE	420	B01	-	-	1232

220 / 240V	ELECTRC	SUPPLY	Lanemark PN Complete Valve	Lanemark PN Spare Coil	Dungs Ref for Spare Coil
MBDLE	403	BO1	10062	10183	1000
MBDLE	405	BO1	10066	10082	1100
MBDLE	407	BO1	10067	10082	1100
MBDLE	410	BO1	10068	10088	1200
MBDLE	412	BO1	10069	10088	1200
MBDLE	415	BO1	-	-	1210
MBDLE	420	BO1	10061	10181	1232



Shown is the Dungs

MBDLE \_ \_ \_ B07 110V or 240V

double solenoid valve with internal by-pass

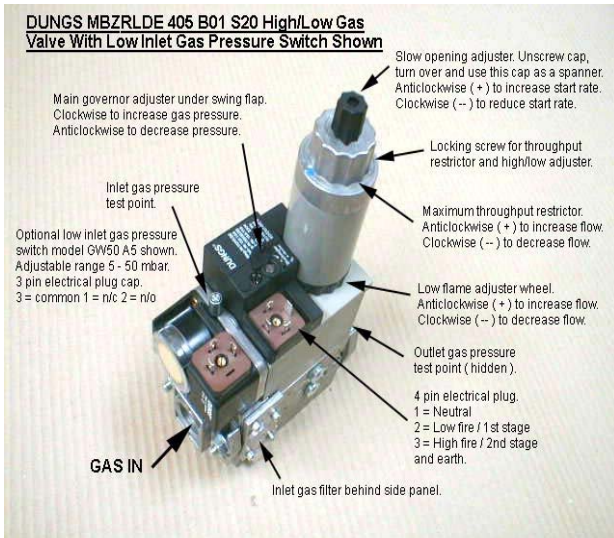
This is available in sizes from 1/2" up to 2" and is used as a main valve but does not need a separate pilot line as the B07 feature is an internal by-pass that can be used to give start/pilot gas.

The spare coil is a single block that contains two coils and the electrical circuit moulded into a single unit.

110V	ELECTRC	SUPPLY	Lanemark PN Complete Valve	Lanemark PN Spare Coil	Dungs Ref for Spare Coil
MBDLE	403	B07	Not	Available from	Dungs
MBDLE	405	B07	10100	10251	1120
MBDLE	407	B07	-	10251	1120
MBDLE	410	B07	-	10257	1220
MBDLE	412	B07	-	10257	1220
MBDLE	415	B07	Not	Available from	Dungs
MBDLE	420	B07	Not	Available from	Dungs

220 / 240V	ELECTRC	SUPPLY	Lanemark PN Complete Valve	Lanemark PN Spare Coil	Dungs Ref for Spare Coil
MBDLE	403	B07	Not	Available from	Dungs
MBDLE	405	B07	10360	10250	1120
MBDLE	407	B07	10362	10250	1120
MBDLE	410	B07	10364	10256	1220
MBDLE	412	B07	10366	10256	1220
MBDLE	415	B07	Not	Available from	Dungs
MBDLE	420	B07	Not	Available from	Dungs





Shown is the Dungs

MBZRDLE \_\_\_\_ B01 110V or 240V

double solenoid valve with 2 stages on the second valve seat.

This is available in sizes from 3/4" up to 2" and is used as a main valve.

The 2 stage facility has been used to give gas trains that do not need a separate pilot/start gas line.

It has also been used to give gas trains where the burner is started on a separate pilot/start gas line and this valve is then used to give the high and low stages where the low stage needs to be quite large.

An optional low inlet gas pressure switch is shown fitted.

Some valves have 2 Lanemark part numbers because we have supplied the basic valve and the DIN Standard version which comes complete with the low inlet gas pressure switch pre-fitted.

110V	ELECTRC	SUPPLY	Lanemark Complete	Spare Coil for on/off coils		Spare Coil for second high/low stage	
			Valve PN	Lanemark PN	Dungs Ref	Lanemark PN	Dungs Ref
MBZRDLE 403	BO1	Not Available	From	Dungs			
MBZRDLE 405	BO1	10078	10085	1101	10087	1150	
MBZRDLE 407	BO1	10079	10085	1101	10087	1150	
MBZRDLE 410	BO1	10080	10091	1201	10093	1250	
MBZRDLE 412	BO1	10081	10091	1201	10093	1250	
MBZRDLE 415	BO1	-	-	1210	-	1250JB	
MBZRDLE 420	BO1	-	-	1232	-	1350JB	

220 / 240V	ELECTRC	SUPPLY	Lanemark Complete	Spare Coil for on/off coils		Spare Coil for second high/low stage	
			Valve PN	Lanemark PN	Dungs Ref	Lanemark PN	Dungs Ref
MBZRDLE 403	BO1	Not Available	From	Dungs			
MBZRDLE 405	BO1	10361 & 10070	10084	1101	10086	1150	
MBZRDLE 407	BO1	10071	10084	1101	10086	1150	
MBZRDLE 410	BO1	10072 & 10101	10090	1201	10092	1250	
MBZRDLE 412	BO1	10073 & 10063	10090	1201	10092	1250	
MBZRDLE 415	BO1	10104	-	1210	-	1250JB	
MBZRDLE 420	BO1	10180	10181	1232	10182	1350JB	

Dungs MBZRDLE \_\_\_ B07

Shown is the Dungs

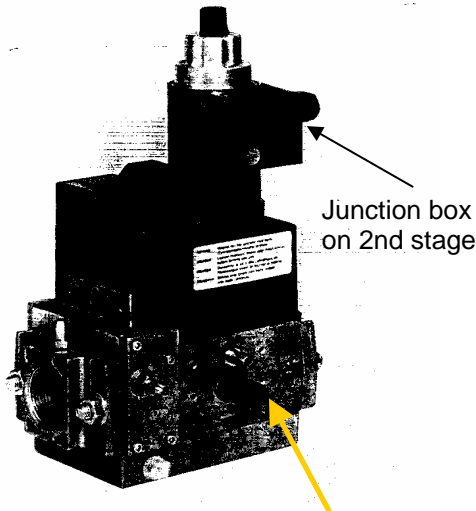
MBZRDLE \_\_\_ B07 110V or 240V

double solenoid valve with 2 stage on the second solenoid and an internal by-pass

This is available in sizes from 3/4" up to 2" and is used as a main valve.

To tell the difference between a MBZRDLE \_\_\_ B01 and B07 look for the black adjuster which only the B07 has.

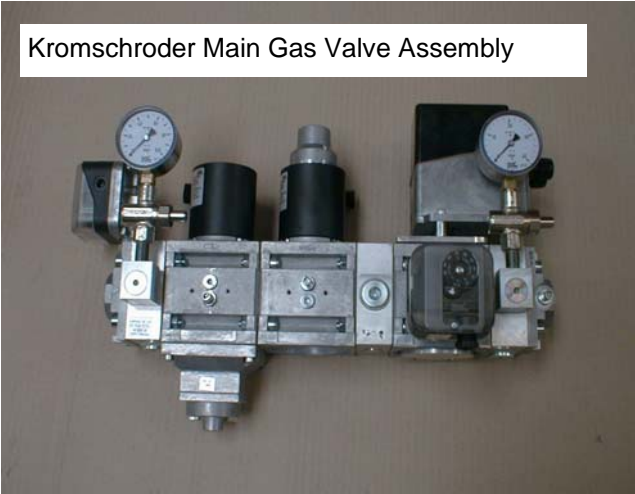
An optional low inlet gas pressure switch is shown fitted.



Black adjuster only on B07

110V	ELECTRC	SUPPLY	Lanemark Complete	Spare Coil for on/off coils		Spare Coil for second high/low stage with junction box	
			Valve PN	Lanemark PN	Dungs Ref	Lanemark PN	Dungs Ref
MBZRDLE 403		B07	Not	Available	From	Dungs	
MBZRDLE 405		B07	-	10251	1120	10255	1150JB
MBZRDLE 407		B07	-	10251	1120	10255	1150JB
MBZRDLE 410		B07	-	10257	1220	10261	1250JB
MBZRDLE 412		B07	10376	10257	1220	10261	1250JB
MBZRDLE 415		B07	Not	Available	From	Dungs	-
MBZRDLE 420		B07	Not	Available	From	Dungs	-

220 / 240V	ELECTRC	SUPPLY	Lanemark Complete	Spare Coil for on/off coils		Spare Coil for second high/low stage with junction box	
			Valve PN	Lanemark PN	Dungs Ref	Lanemark PN	Dungs Ref
MBZRDLE 403		B07	Not	Available	From	Dungs	
MBZRDLE 405		B07	-	10250	1120	10254	1150JB
MBZRDLE 407		B07	10363	10250	1120	10254	1150JB
MBZRDLE 410		B07	10365	10256	1220	10260	1250JB
MBZRDLE 412		B07	10367	10256	1220	10260	1250JB
MBZRDLE 415		B07	Not	Available	From	Dungs	-
MBZRDLE 420		B07	Not	Available	From	Dungs	-

**Kromschroder Main Gas Valve Assembly**

A small number of Kromschroder main and pilot gas valves have been used to customers special requests.

Shown is the Kromschroder Moduline main gas valve assembly with a GT31E modulating motor fitted.

For such valves the original order and Kromschroder will need to be consulted for spares.

**Kromschroder 1/2" Pilot Valve**

Shown is the Kromschroder 1/2" pilot valve with dual solenoids and an internal governor.

For such valves the original order and Kromschroder will need to be consulted for spares.

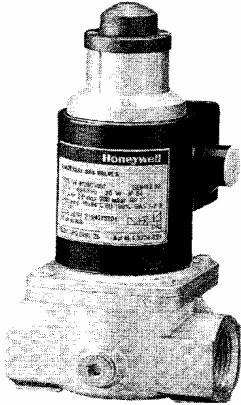
**GT31 Modulating Motor On LFC Flow Control**

Shown is the Kromschroder LFC ( linear flow control—similar to a modulating ball valve but uses a profiled barrel ) with a GT31E modulating motor fitted.

The GT31 E was also supplied by InterAlbion Ltd.

This modulating valve is used where the customer specifies it, or as a replacement for Caledonian Controls DMA4 modulating motors particularly where feed back potentiometers are needed.

For such valves the original order and Kromschroder will need to be consulted for spares.

**Honeywell VE Series Single Valves**

A small number of Honeywell single VE Series valves have been supplied in sizes from 1/2" to 2".

These valves are IP65 rated ( better than most other valves which are IP54 ) and often used in stainless steel gas trains for installations which will be damp.

For such valves the original order and Honeywell will need to be consulted for spares.

**Caledonian Controls DMA4  
Modulating Motor & Ball Valve**

A large number of Caledonian Controls Ltd DMA4 Modulating Motors with Ball Valves have been supplied.

These were available with 24V, 110V and 240V power supplies with direct 3-wire control, 0-10V or 4-20 mAmp control signals. Feedback potentiometers could be fitted.

These are no longer available as spares.

For spares a Johnson M91 Series modulating motor and matching ball valve must be supplied. The Johnson and Caledonian ball valves are slightly different in body length and the gas pipe work may need changing to suit.

If a feed back potentiometer was fitted then the Kromschroder GT31 and a LFC unit must be used as the Johnson M91 Series is not available with a full range of potentiometers sizes.



Johnson M91 Series Modulating Motor



Johnson Modulating Ball Valve,  
Adaptor Plate, Shaft & Screws



A large number of Johnson M91 Series Modulating motors have been supplied to control a matching gas ball valve or to control an air damper on modulating FD burners or an exhaust damper on modulating TX burners.

This modulating motor is manufactured by Juventa Ltd and has also been supplied by InterAlbion Ltd with a Juventa name badge on it.

The motor is designated :-

M-9108 which is an 8 NM torque motor which is strong enough to drive ball valves up to 1 1/2”.

M-9116 which is a stronger 16 NM motor which is needed to drive 2” ball valves.

When used with a ball valve a mounting plate, adaptor shaft and a set of screws is also needed.

The motors cannot be repaired or a new circuit board or motor fitted inside. Once there is a fault with the modulating motor it must be replaced as a complete unit.

BALL VALVE SIZE	LANEMARK Part Number	JOHNSON Part Number
1/2”	10722	2A15
3/4”	10704	2A20
1”	10721	2A25
1 1/4”	-	-
1 1/2”	10716	2A40
2” ( needs M-9116 not M-9108 size motor to drive it )	10717	2A50

Adaptor plate for Johnson ball valve	Part No 99016
Adaptor shaft for Johnson ball valve	Part No 99017
M4 x 30 screws 4 off needed	Part No 71350



FD OVEN HEATING BURNER SERIES  
 SPARE PARTS MANUAL  
 SECTION 3 GAS TRAINS & VALVES

Johnson M91 Series Modulating Motor



Lanemark Part No	Johnson Part No	Power Supply Volts	Control Signal	Auxiliary Switches	Potentiometer Size Ohms
10703	M-9108- AGA-1	24	3 WIRE	-	-
10707	M-9108- AGC-1	24	3 WIRE	2	-
10706	M-9108- GGA-1	24	0-10 & 4-20	-	-
10708	M-9108- GGC-1	24	0-10 & 4-20	2	-
10723	M-9108- AGE-1	24	3 WIRE	-	1000
10709	M-9108- ADA-1	230	3 WIRE	-	-
10702	M-9108- ADC-1	230	3 WIRE	2	-
10710	M-9108- GDA-1	230	0-10	-	-
10711	M-9108- GDC-1	230	0-10	2	-
10718	M-9108- GDA 1.01	230	4-20	-	-
10719	M-9108- GDC 1.01	230	4-20	2	-
10724	M-9108- ADF-1	230	3 WIRE	-	2000
10726	M-9108- GAC 1.01	110	4-20	2	-
10727	M-9108- GAC-1	110	0-10	2	-
NOT	AVAIL ABLE	110	3 WIRE	USE 24V	& TRANSFORMER
10712	M-9116- AGA-1	24	3 WIRE	-	-
10713	M-9116- GGA-1	24	0-10 & 4-20	-	-
10714	M-9116- ADA-1	230	3 WIRE	-	-
10720	M-9116- GDA 1.01	230	4-20	-	-











Gas Pressure  
Gauge With  
Gauge Cock

Shown is a gas pressure gauge with gauge cock.  
The gauge cock is used is the push button type.

**Dungs Types**

Lanemark PN	Dungs PN	Description
10633	033621	Gauge cock 1/4" BSP push button
10632	099028	Gauge 0-40 mbar

**Kromschroder Types**

Lanemark PN	Kromschroder PN	Description
10609	0315-2149	Gauge cock 1/2" push button
10625	0311-0615	Gauge cock seat sealing washer
10603	0320-0131	Gauge 0-40 mbar
10604	0320-0108	Gauge 0-100 mbar



Screwed Fine Gas Filter

Shown is a screwed fine filter.

These are available for low pressure and high pressure gas supplies.

The filter element is available as a spare but not generally needed.

**Dungs Low Pressure**

Filter		Assembly		Spare Filter Pads	
Lanemark PN	Dungs PN	Size	Lanemark PN	Dungs PN	
10664	GF505/1	1/2"	-	-	
10663	GF507/1	3/4"	-	-	
10645	GF510	1"	-	-	
10634	GF515	1 1/2"	-	-	
10635	GF520	2"	-	-	

**Dungs for 4 bar**

Filter		Assembly		Spare Filter Pads	
Lanemark PN	Dungs PN	Size	Lanemark PN	Dungs PN	
10651	GF4015/1	1 1/2"	-	-	

**Kromschroder Low Pressure**

Filter		Assembly		Spare Filter Pads	
Lanemark PN	Kromschroder	Size	Lanemark PN	Kromschroder PN	
-	-	1/2"	-	-	
12049	GFK20	3/4"	-	-	
11030	GFK25-R10	1"	-	-	
12087	GFK40	1 1/2"	-	-	
11031	GFK50	2"	-	-	

Governors ( also called pressure regulators ) have been supplied in many sizes from 1/4" to 3" from many different suppliers. Common names are :-

Dungs Kromschroder Jeavons Donkin Maxitrol Madas Fisher

These do not generally have any replaceable parts and if there is a problem the complete unit is replaced. On some types it is possible to replace the internal diaphragm—but not often done.

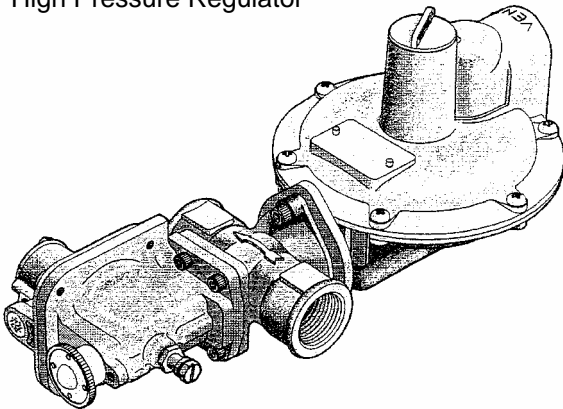
The key information is the connection size e.g. 1" BSP screwed ( could be flanged ).

The maximum inlet pressure.

The outlet setting range ( or spring colour which determines the setting range ).

Generally there is a small data plate on each governor giving a manufacturers name and model number which should be used to determine the part number of the replacement.

Jeavons J125  
High Pressure Regulator



Shown is a Jeavons J125 high pressure regulator available in 3/4" and 1" sizes.

This had different orifices fitted internally for different inlet pressures and flow rates and different spring ranges.

It was mainly used on propane with over pressure cut-off ( OPSO ) and /or low pressure cut-off ( UPSO ) safety slam shut valves. It was also supplied with limited or full relief by venting to atmosphere. To select the correct model the Job Plan should be consulted.

Shown below are some typical governors supplied.



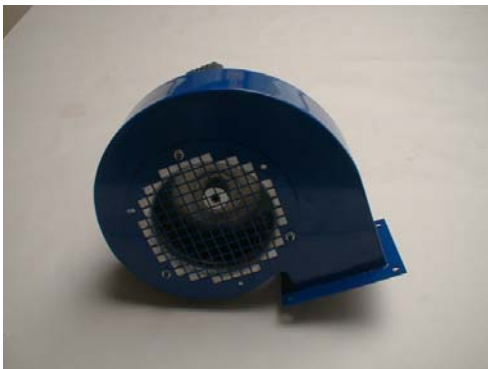
## Fans

Over the years the electric motors have been sourced from many suppliers.

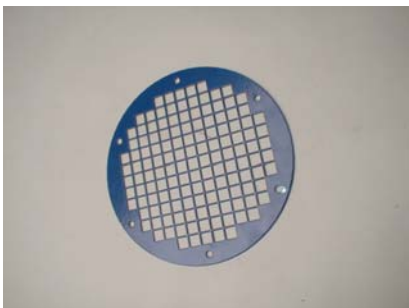
Typical sources are TECO, Koncar, Western Electric, CEM, etc.

A replacement motor even though from a different supplier will still fit.

We do however recommend buying a complete assembly of motor, back plate and impellor, pre-assembled as a set because it is very difficult to remove an impellor from its shaft once it has been on for several years.



Complete Fan Assembly				
Model	Lanemark		Karl Klein Replacement	
	230V Single Phase	415V 3-Phase	230V Single Phase	415V 3-Phase
FD5	1180030	1380026	1180051	1380051
FD10	1180031	1380027	1180052	1380052
FD15	1180032	1380028	x	x
FD20	1180024	1380029	x	x



<b><u>Spare Finger Guard</u></b>	
Model	230V Single Phase
FD5	14307
FD10	14317
FD15	14317
FD20	14317

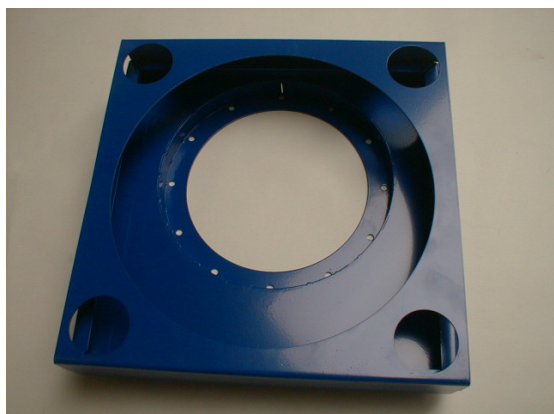


<b><u>Spare Air Inlet Guide</u></b>	
Model	230V Single Phase
FD5	14300
FD10	14310
FD15	14310
FD20	14310



\* Early burners FD Mk 1 and Mk 2 had fans made by Klein.GmbH. We can supply an alternative for the FD5 and FD10 Mk 1 and Mk 2. For FD15 and FD20 we have to buy Klein fans to special order.





Spare Filter Housing Assembly	
Model	-
FD5	1040068
FD10	1040069
FD15	1040070
FD20	1040071



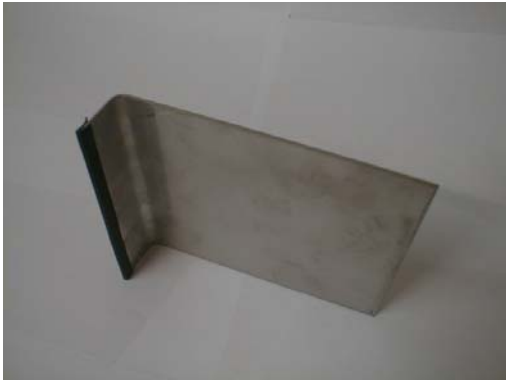
Spare Filter Pads	
Model	Standard Filter
FD5	14090
FD10	14091
FD15	14092
FD20	14093



Spare Impellor Only	
Model	-
FD5	14301
FD10	14311
FD15	14321
FD20	14331



Spare Scroll Only	
Model	-
FD5	1080095
FD10	1080001
FD15	1080019
FD20	1080025



Spare Sliding Damper	
Model	-
FD5	52295
FD10	52296
FD15	52297
FD20	52298



Spare Fan Outlet Gasket	
Model	-
FD5	50714
FD10	50715
FD15	50716
FD20	50717



Spare Motors*		
Model	230V Single Phase	415V 3-Phase
FD5	14356	14352
FD10	14357	14353
FD15	14358	14354
FD20	14359	14355

\* As a general rule, single phase 230V motors have a capacitor attached to the motor body. Some later single phase motors have the capacitor built into the junction box. If a spare capacitor is required please take the details off the capacitor body.



Spare Motor, Backplate and Impellor Assembly*		
Model	230V Single Phase	415V 3-Phase
FD5	1180101	1380101
FD10	1180103	1380103
FD15	1180105	1380105
FD20	1180107	1380107

This is the preferred part for spares.