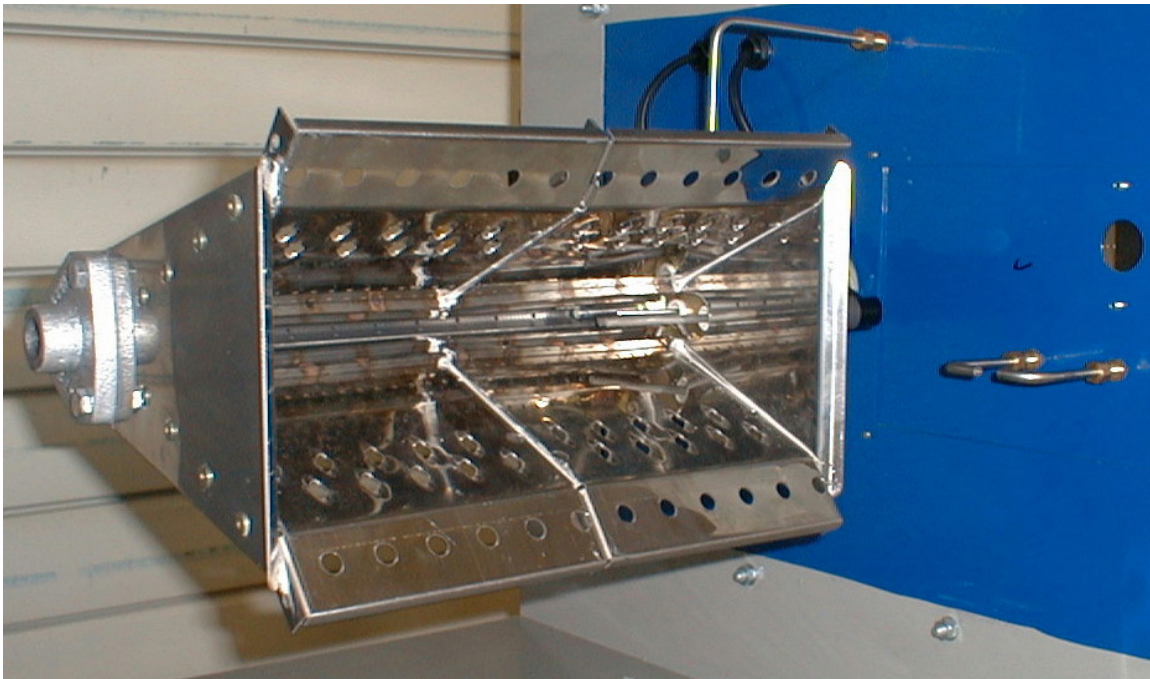




## **PROCESS BURNER DIVISION SPARE PARTS MANUAL**



The information contained in this manual is advisory and in general terms only and does not constitute a legal liability on Lanemark International Ltd. This burner is protected by patents.

Lanemark International Ltd reserve the right to supply equipment to their latest specification.

### **DUCT BURNER HEATING SYSTEM**

**SECTION 1**

**BURNER ASSEMBLIES**



**SECTION 2**

**CONTROL PANELS**



**SECTION 3**

**GAS TRAINS**



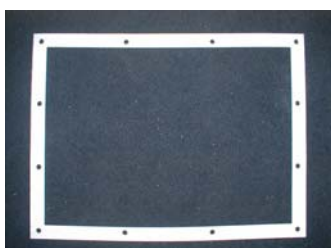
**SECTION 4**

**TEMPERATURE CONTROLLERS**



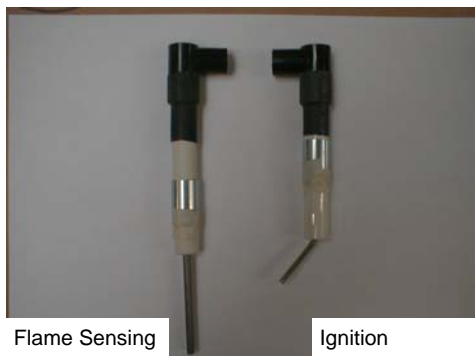


PILOT ASSEMBLIES	
NATURAL GAS PILOT ASSEMBLY	50297
PROPANE BURNER ASSEMBLY	50339
NATURAL GAS UV PILOT	50311



DUCT BURNER GASKET	50733
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## DUCT BURNER HEATING SERIES SPARE PARTS MANUAL SECTION 1 BURNER ASSEMBLIES



Duct Burner ignition & flame sensing electrodes	
Flame Sensing	Ignition
50309	50308



Duct Burner ignition & flame sensing plug caps	
Ignition	50312
Flame sensing	50313



Duct Burner Ignition & Flame Cables( m)	
Cable	71001
Silicone Cable	70999



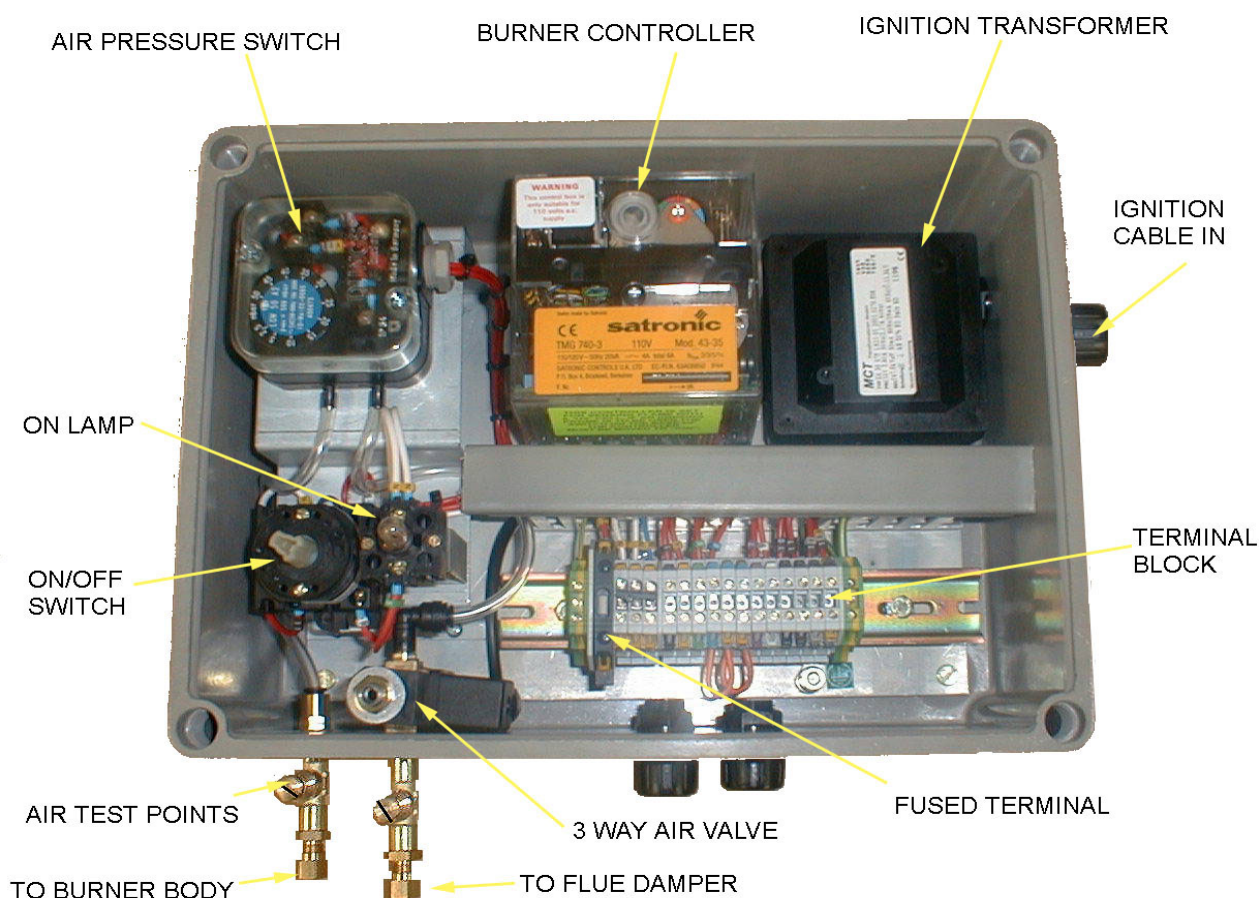
Duct Burner UV Cells ( they are for 110V & 230V )	
Satronic UVZ780 Red Spot ( Satronic make 3 grades, red, white and blue—red is the best quality )	13043
Landis QRA2	13045



TX Burner sight glass assembly	
Site glass holder	50809
Site glass lens	30010
Gasket	50711



TX Burner back plate spacers	
MODEL	Part No / length
TX15 / 20 / 25 (not 25E)	50201 / 15 mm
TX25E / 30 / 40	50202 / 25 mm
TX60	50203 / 35 mm



TX Polycarbonate panel with clear lid			
MODEL	Box with lid	Back plate	Clear lid only
Landscape 360x270	12053	12056	12104
Square 360x360	12100	12115	12116
Double 540x270	12068	12069	12110
Large Square 540x540	12059	12117	12113
Large plastic screw for lid ( set of 4 )	12105		





# DUCT BURNER HEATING SERIES SPARE PARTS MANUAL SECTION 2 CONTROL PANEL



SATRONIC TMG  
SERIES

SATRONIC SERIES  
MMI / MMG / DMG

LANDIS LFL &  
LGB SERIES

HONEYWELL  
7600 SERIES

## Control Boxes and Bases

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.



## UV & IR Cells for DMG970 box

UVD971 end view 230V	13036
UVD971 side view 230V	13195 discontinued
IRD1020 end view 230V	13037
IRD820 end view 110V	13255



## FR870 Remote reset device for MMG & MMI box

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	12027
Dungs LGW10A2 Range 1 to 10 mbar	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 Com- plete 11'0V	10032
3-Way Air Valve Com- plete 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.

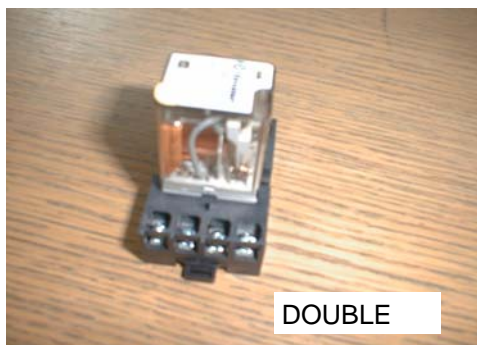


Fuse	
Main Fuse 3.15Amp Type F 20x5 mm	13041
Auxiliary Fuse 1 Amp Type F 20x5 mm	13050

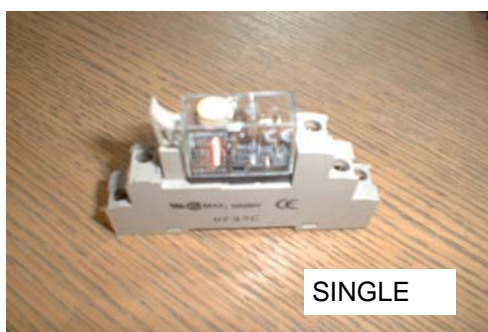


Eagle Digital Temperature Controller	
Eagle 1048D Tempera- ture Controller 110V and 230V Supply	12004
11 Pin DIN Rail Mounting Base for Eagle 1048D	12005
11 Pin Base for front panel mounting of Eagle 1048D	12010





DOUBLE



SINGLE

### 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.



### Lamp ( new style Aug 2003 onwards )

Telescopic bracket	13221
Neon lamp ( multi-voltage 110V and 230V )	13220
Lens Green	13697
Lens Red	13691
Lens White	13700



### Lamp ( old pre- Aug 2003 )

Pilot light body 110V	13042
Pilot light body 230V	13047
Lens Green	13048
Bulb BA9 120V	*13191

\*The bulb is 120V for both 110V and 230V panels. The pilot light body for 230V contains an extra resistor to reduce 230V down to 120V.



**On/Off and Reset Switch  
( new style Aug 2003 onwards )**

Switch set	13269
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The new switch 13269 can be used as a direct replacement for the old switch 13015.



**On/Off and Reset Switch  
( old style Pre- Aug 2003 )**

Switch set	13015
------------	-------



**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**

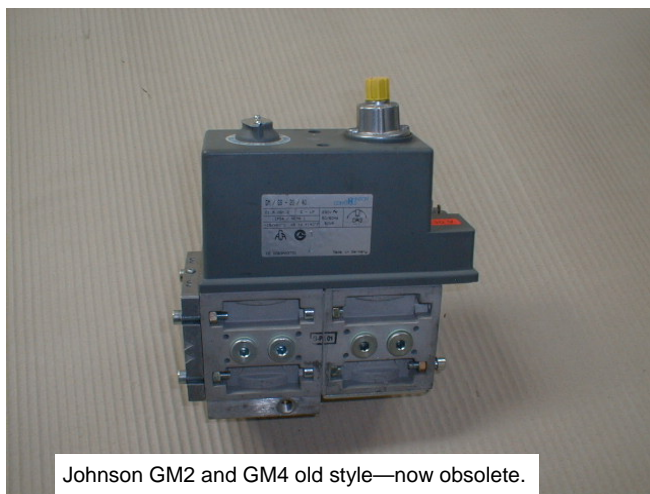
1/8"x 6mm stud	52338
Black 6mm x 6mm connector	52334
Tee	10024
1/8" x 6mm swivel elbow	22062

Below is a typical Duct Burner Gas Train





## DUCT BURNER HEATING SERIES SPARE PARTS MANUAL SECTION 3 GAS TRAINS



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		10733	10517
	Johnson PN		GO 9511 0000	GO 9521 0000
GM2 & GM4 230V	Lanemark PN		10732	10515
	Johnson PN		GO 9510 0000	GO 9520 0000





By-pass for GM2 & GM4 valve

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	10449	10567
110V SUPPLY	Johnson PN	GO 2541 2000	GO 9300 2541 2
UNIVERSAL BY-PASS	Lanemark PN	10448	10566
230V SUPPLY	Johnson PN	GO 2540 2000	GO 9300 2540 2
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	

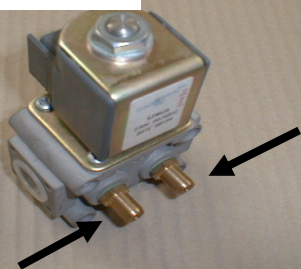
#### OBSOLETE BY-PASS VALVES

		OBSOLETE 110V	EQUIVALENT
UNIVERSAL BY-PASS	Lanemark PN	10444	10449
110V SUPPLY	Johnson PN	GO 2531 0000	GO 2541 2000
UNIVERSAL BY-PASS	Lanemark PN	10443	10448
230V SUPPLY	Johnson PN	GO 2530 0000	GO 2540 2000

		OBSOLETE 110V	UNIVERSAL EQUIVALENT
BYPASS LEFT HAND	Lanemark PN	10426	10449
	Johnson PN	GO 2131 0000	GO 2541 2000
BYPASS RIGHT HAND	Lanemark PN	10425	10448
	Johnson PN	GO 2331 0000	GO 2540 2000

		OBSOLETE 230V	UNIVERSAL EQUIVALENT
BYPASS LEFT HAND	Lanemark PN	10421	10449
	Johnson PN	GO 2130 0000	GO 2541 2000
BYPASS RIGHT HAND	Lanemark PN	10420	10448
	Johnson PN	GO 2330 0000	GO 2540 2000

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.

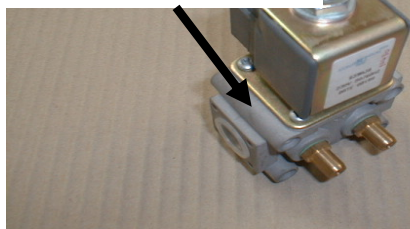
This valve was tapped on the inlet and the outlet 1/2" BSP.

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	10465	10567
110V SUPPLY	Johnson PN	GO 2641 2000	GO 9300 2541 2
Johnson 3/8" Ext' Solenoid	Lanemark PN	10464	10566
230V SUPPLY	Johnson PN	GO 2640 2000	GO 9300 2540 2
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 EXTERNAL PILOT 3/8" SINGLE SEAT SOLENOID VALVE-OLD VERSION

		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.

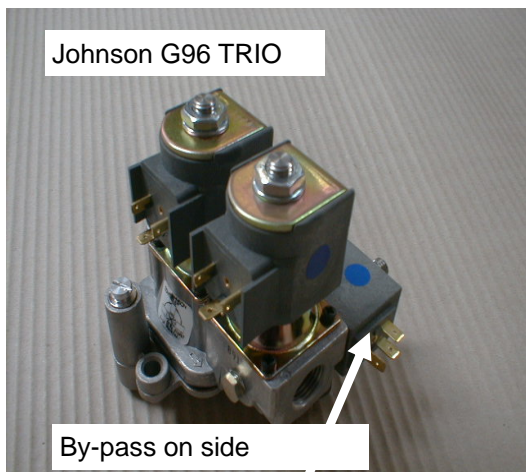
This is used as a pilot valve/low fire valve on larger burners.

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

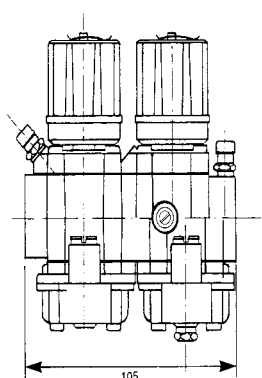


Shown is the Johnson SM474 1/4" single solenoid valve.

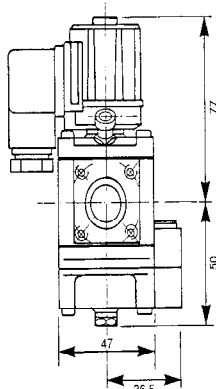
This is used as a pilot valve on small pilots and normally as a pair.

### 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





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

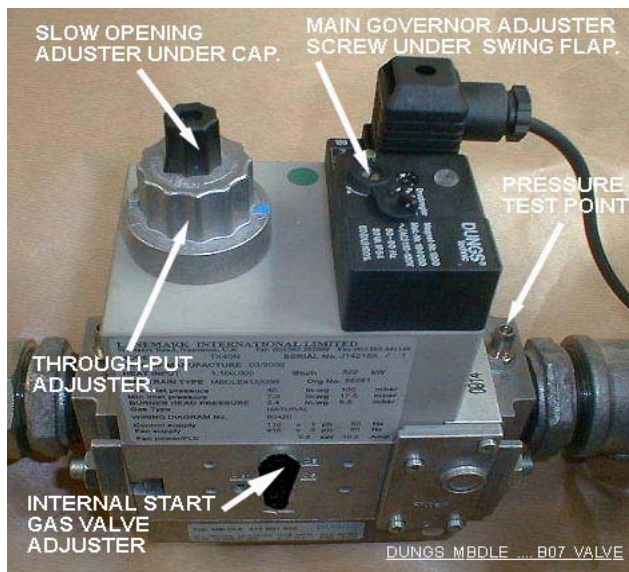
double solenoid valve with an optional low inlet gas pressure switch fitted.

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

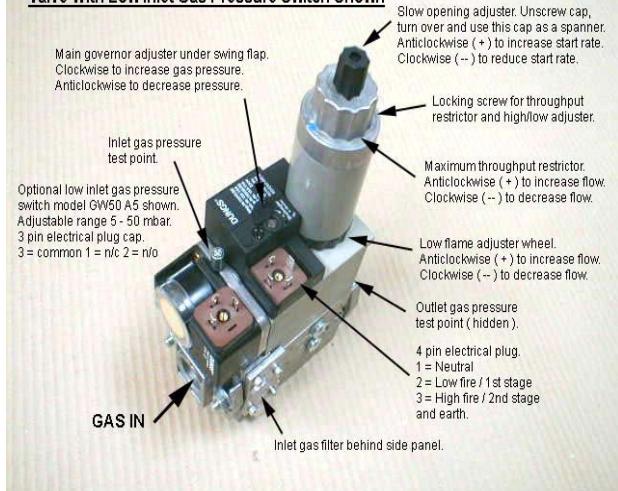
This is available in sizes from 1/2" up to 2" and is used as a main valve but does not need a separate pilot line as the B07 feature is an internal by-pass that can be used to give start/pilot gas.

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

### DUNGS MBZRLDE 405 B01 S20 High/Low Gas Valve With Low Inlet Gas Pressure Switch Shown



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 Valve PN	Spare Coil for on/off coils		Spare Coil for second high/low stage	
				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 Valve PN	Spare Coil for on/off coils		Spare Coil for second high/low stage	
				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

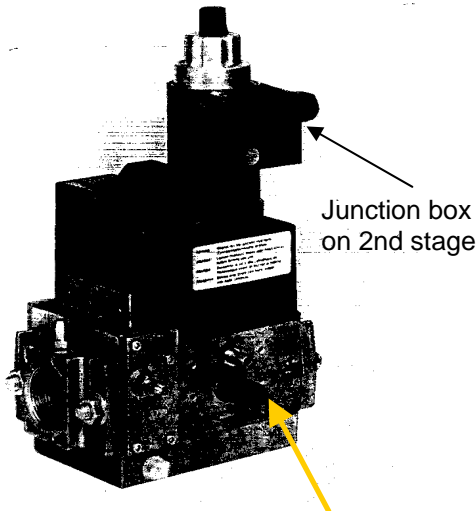
MBZRDLE \_ \_ \_ B07 110V or 240V

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.

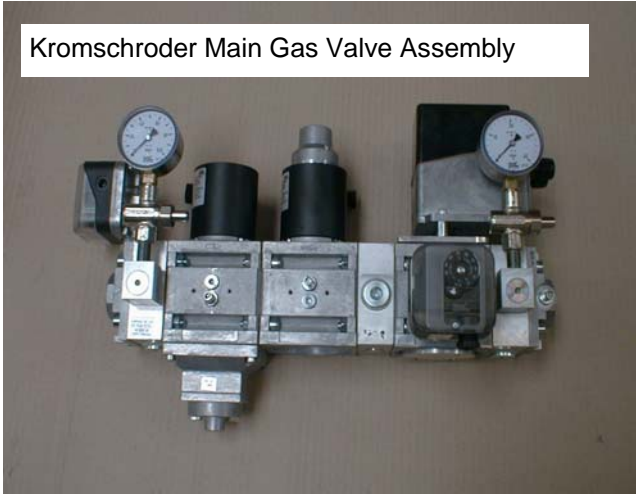


Black adjuster only on B07

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



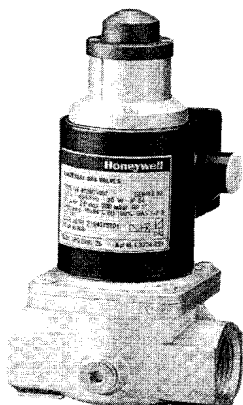
Shown is the Kromschroder LFC ( linear flow control—similar to a modulating ball valve but uses a profiled barrel ) with a GT31E modulating motor fitted.

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 mA 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



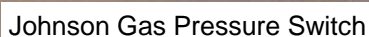


# DUCT BURNER HEATING SERIES SPARE PARTS MANUAL SECTION 3 GAS TRAINS

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	-	-



If the pressure switch was one that was mounted direct on to the inlet filter block then consult Lanemark because the filter block will need the pressure sensing hole blocking up..

Lanemark Part No	Johnson Part No	Suitable for Low Inlet	Suitable for High Outlet	Setting Range mbar	Auto or Manual Reset	Inlet Flange Mounted Type	1/4" Back Tapping Connection
10470	GO-1111-0000	Y	N	10-50	Auto	Y	N
<u>10471</u>	<u>P33GB-9400</u>	<u>Y</u>	<u>Y</u>	<u>6-50</u>	<u>Auto</u>	<u>N</u>	<u>Y</u>
10475	GO-1000-0000	Y	N	5-20	Auto	Y	N
10476	GO-1001-0000	Y	N	10-50	Auto	Y	N
10477	GO-1011-0000	Y	N	10-50	Auto	Y	N
10478	G0-1021-0000	Y	N	10-50	Auto	Y	N
<u>10472</u>	<u>P33GB-9300</u>	<u>Y</u>	<u>Y</u>	<u>1.4-10</u>	<u>Auto</u>	<u>N</u>	<u>Y</u>
10479	G0-1101-0000	Y	N	10-50	Auto	Y	N

10471 OBSOLETE—USE DUNGS 12112  
10472 OBSOLETE—USE DUNGS 12109



Dungs Gas Pressure Switch

Shown is a Dungs gas pressure switch.

Dungs gas pressure switches have a yellow dial to distinguish them from the Dungs air pressure switches which look very similar but have a blue dial.

This particular switch is connected into the gas pipe work by a 1/4" tapping on the back.

A similar version is available that fits directly onto the inlet flange of Dungs main gas valves.

Dungs also have a range of miniature pressure switches that are part of the valve body.

Lanemark Part No	Dungs Part No	Suitable for Low Inlet	Suitable for High Outlet	Setting Range mbar	Auto or Manual Reset	Inlet Flange Mounted Type	1/4" Back Tapping Connection
12112	GW50A4	Y	Y	2.5-50	Auto	N	Y
12007	GW50A2	Y	N	2.5-50	Auto	Y	N
12011	LGW3A4	Y	N	0.4-3.0	Auto	N	Y
12014	LGW50A4	Y	Y	2.5-50	Auto	N	Y
12029	LGW10A4	Y	Y	1-10	Auto	N	Y
12082	UB50A4	N	Y	2.5-50	MAN	N	Y
13025	NB50A4	Y	N	2.5-50	MAN	N	Y
12109	GW10A4	Y	Y	1-10	Auto	N	Y



Kromschroder Gas Pressure Switch

Shown is a Kromschroder gas pressure switch.

This particular switch is connected into the gas pipe work by a 1/4" tapping on the back.

Some Kromschroder valves have miniature gas pressure switches built into the gas valve bodies.

Lanemark Part No	Kromschroder Part No	Suitable for Low Inlet	Suitable for High Outlet	Setting Range mbar	Auto or Manual Reset	Inlet Flange Mounted Type	1/4" Back Tapping Connection
12015	DG50H	N	Y	2.5-50	MAN	N	Y
12019	DG50U	Y	Y	2.5-50	AUTO	N	Y
12048	DG150U	Y	Y	30-150	AUTO	N	Y
12088	Duplicate	Part No	Use	12015			





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.

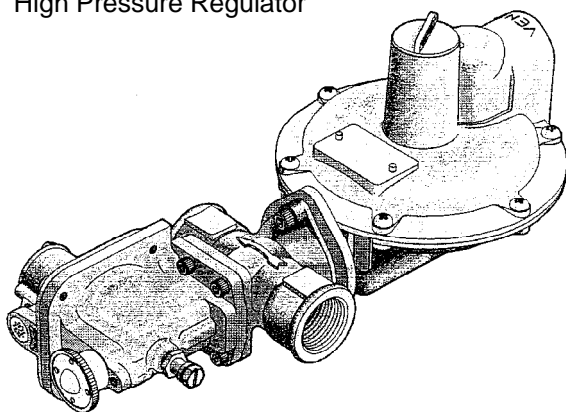
The key information is the connection size e.g. 1" BSP screwed ( could be flanged ).

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.



Dungs



Kromschroder



Jeavons



Jeavons

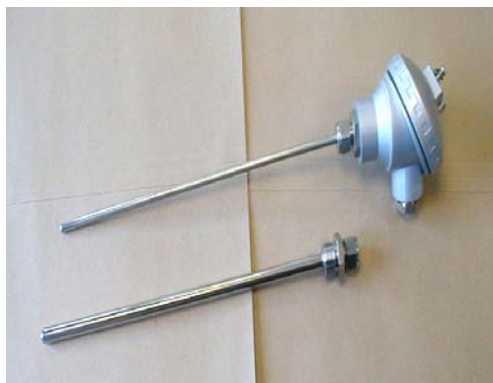
## DUCT BURNER HEATING SERIES SPARE PARTS MANUAL SECTION 4 TEMPERATURE CONTROL



### Eagle 1048D Digital Temperature Controller

Eagle 1048D 110V & 230V	12004
Base ( DIN rail mounting )	12005
Base ( front panel mounting )	12010

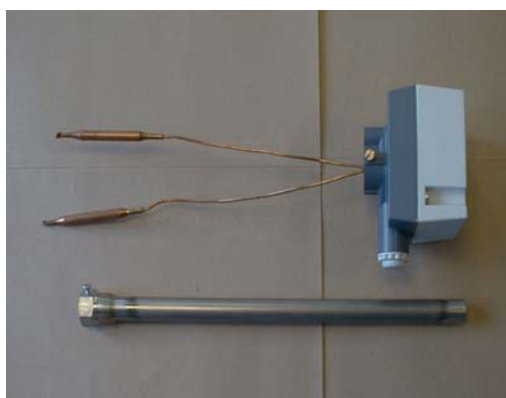
Many other digital temperature controllers have been supplied e.g. CAL, Eurotherm, West etc. Please ask for Part No's.



### Pt100 Temperature Probe

Pt100 by 300mm long	13097
300mm stainless pocket x 1/2" BSP fixing	13098
6mm collar for oven mounting	22015

Other lengths of Pt100 have been supplied with the appropriate pocket length. Please ask for Part No's.



### ElectroControls Ltd Mechanical Thermostats

Single ( for on/off burners )	13027
Double ( for high / low burners )	13028
300mm stainless steel pocket x 1/2" BSP fixing	13010

Other types of mechanical thermostat have been supplied with the appropriate pocket length. Please ask for Part No's.

### Sauter Ltd Mechanical Thermostats ( These are now obsolete—use alternatives )

Single ( for on/off burners ) Sauter TC1G	PN 13011 ( use 13027 )
Double ( for high / low burners ) Sauter TC1D	PN 13012 ( use 13028 )
300mm stainless steel pocket x 1/2" BSP fixing	13010