4GA/B M4GA/B

MN4GA/B

4GA/B

(mastr)

4GD/E

M4GD/E

MN4GD/E

4GA4/B4 MN3E

MN4E

W4GA/B2

W4GB4

4TB

4F

GMF

P\/5 **GMF**

3QR 3QB

Technical data 2 How to expand reduced wiring manifold

M4G (metal base manifold)

* Refer to page 738 for MN4G (block manifold).

Pattern 1 Expansion to position equipped with spare wiring

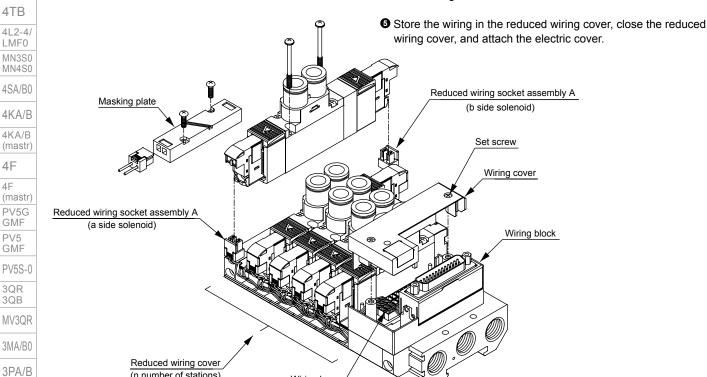
The masking plate at the planned expansion position is equipped with spare wiring in advance. For the valve expansion method with spare wiring, follow the steps below.

- Remove the spare socket from the masking plate.
- Remove the masking plate from the base.
- Mount the valve for expansion and attach the socket.

Pattern 2 Expansion to position without spare wiring

When changing the single to the double, additional internal wiring to the b side solenoid for expansion is required. For the valve expansion method without spare wiring, follow the steps below.

- Remove the wiring cover and open the reduced wiring cover.
- 2 Exchange the valve at the change position. Exchange the socket for the a side solenoid.
- **3** Attach the socket for the b side solenoid (sold separately). Pass the wiring through the valve and pull it out to the a side.
- Route the wire inside the wiring block and insert the connector to the wiring base.



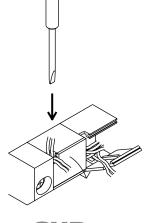
Wiring base

How to open and close the reduced wiring cover

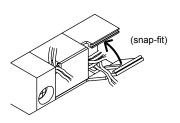
(n number of stations)

How to open the reduced wiring cover

How to close the reduced wiring cover



Catch the cable through hole of the reduced wiring cover with a precision screwdriver, etc., and open the cover. Do not use a pointed tool, so as not to damage the cable while catching the hole.



Pass the cable through the cable-through hole of the reduced wiring cover and close the cover. Avoid snagging the cable, and close the cover until it clicks into place.

736

CKD

4F*0E HMV HSV 2QV

3QV

P/M/B

NP/NAP NVP

4F*0EX

SKH

PCD

Silencer TotAirSys

(Total Air)

TotAirSys (Gamma) Ending

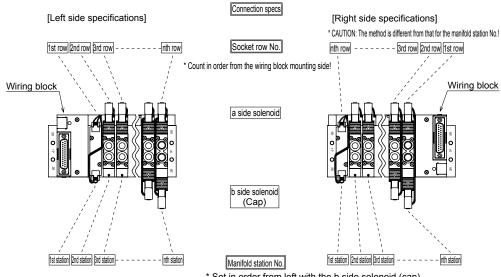
4GA/MN4GA Series

Technical data 2 How to expand reduced wiring manifold

Selection of model No. of socket assembly for expansion

For the socket assembly for expansion, specify a cable with appropriate length corresponding to the expansion position. Incorrect selection could cause disconnection or cable interference.

For the A type socket assembly model No., the expansion positions are set in order from the wiring block mounting side. Note that this is different from the setting method for the manifold valve station numbers, which are set in order from the left with the b side solenoid facing forward.



* Set in order from left with the b side solenoid (cap) facing forward.

Note

1. T50/T51 is also the same

Model No. of socket assembly for expansion A type connector socket assembly

4G *1 R-SOCKET-ASSY-A *2 *3 - *4

| *1 Series | | *2: Connection specs | | *3: Solenoid position | | *4: No. of socket rows | |
|-----------|-----|----------------------|-------|-----------------------|--------|------------------------|----------|
| 1 | 4G1 | Blank | Left | Α | a side | 1 | 1st row |
| 2 | 4G2 | R | Right | В | b side | to | to |
| 3 | 4G3 | | | | | 24 | 24th row |

4GA/B

M4GA/B

MN4GA/B

4GA/B (mastr)

4GD/E

M4GD/E

MN4GD/E

4GA4/B4

MN3E

MN4E W4GA/B2

W4GB4

4TB

4L2-4/ LMF0 MN3S0

MN4S0 4SA/B0

4KA/B

4KA/B (mastr)

4F

(mastr) PV5G GMF

PV5 GMF

PV5S-0

3QR 3QB

MV3QR 3MA/B0

3PA/B

P/M/B

NP/NAP/

4F*0EX

4F*0E

HMV HSV 2QV

3QV SKH

PCD

Silencer TotAirSys

(Total Air) TotAirSys (Gamma)

Ending

4GA/B

M4GA/B

MN4GA/B
4GA/B
(mastr)
4GD/E
M4GD/E
MN4GD/E
4GA4/B4
MN3E
MN4E

W4GA/B2

W4GB4

4TB 4L2-4/

LMF0 MN3S0

MN4S0

4SA/B0 4KA/B 4KA/B (mastr)

4F

(mastr)

PV5G GMF

PV5

GMF

PV5S-0 3QR 3QB MV3QR 3MA/B0 3PA/B

P/M/B NP/NAP/

4F*0EX

4F*0E

HMV HSV

2QV 3QV

SKH

PCD

Silencer

TotAirSys

(Total Air)

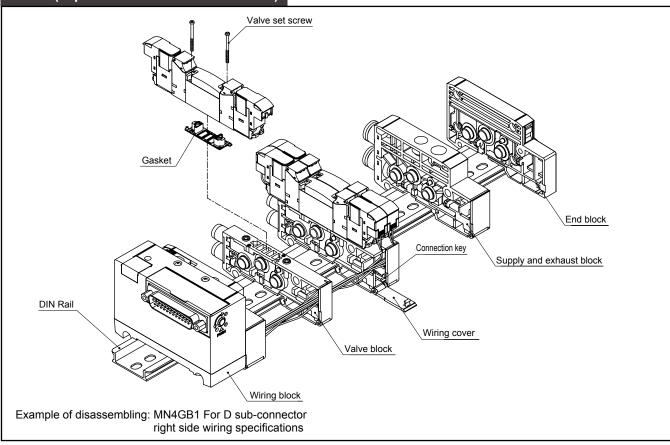
TotAirSys

(Gamma)

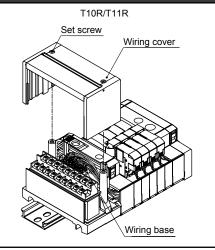
Ending

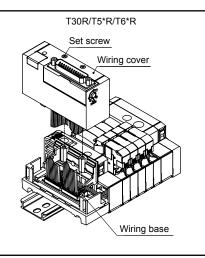
Technical data 2 How to expand reduced wiring manifold

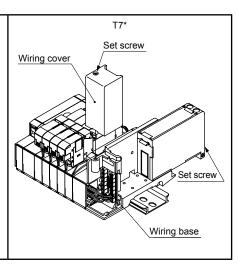
MN4G (exploded view of block manifold)

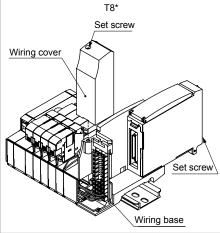


Removing the wiring cover









Replacing valves

Removing method

- (1) Remove the socket (signal line).
- (2) Loosen the mounting screws (2 positions).
- (3) Remove the valve from the valve block. Installation method

Follow the removal procedure in reverse. Refer to the text at right for the recommended tightening torque for the mounting screw.

Note) The valve block differs between single wiring (V1) and double wiring (V2). Accordingly, when changing from single to double or from double to single, exchange the entire discrete valve block with solenoid valve.

Recommended tightening torque for the valve mounting screw

| | Size | Recommended tightening torque (N·m) | | |
|-----|------|-------------------------------------|--|--|
| 4G1 | M1.7 | 0.18 to 0.22 | | |
| 4G2 | M2.5 | 0.35 to 0.40 | | |

Technical data 2 How to expand reduced wiring manifold

Increasing the valve blocks

- ①Loosen the DIN rail fixing screw.
- 2)Open the reduced wiring cover
- ③Pull the connecting key for the position to be expanded until it clicks, and disengage the connection between blocks.
- (4) Remove the cover of the wiring block to expose the wiring base.
 [Removing the wiring cover]
- ⑤Connect the signal line (socket assembly) [*1] to the wiring base [*2], and assemble the signal line to the valve block. (Fig. 1)
 - *1 [Refer to Selection of model No. of socket assembly for expansion shown below]
 - *2 [Refer to Instructions for connection to wiring base on page 740]
- ⑥Mount the valve block to be added to the DIN rail. (Fig. 2)
- Press so that there is no gap between blocks, and press the key to engage.
- ®With care not to catch the signal line, close the wiring cover and tighten the cover of the wiring block.

(Tightening torque: 0.35 to 0.50 N·m)

 While holding down so that there is no gap between blocks, tighten DIN rail set screws. At this time, ensure that the position of the operation button is the fixed side.

(Recommended tightening torque: 1.2 to 1.6 N·m).

* Up to 2 stations can be expanded before the furthest position from the wiring block.

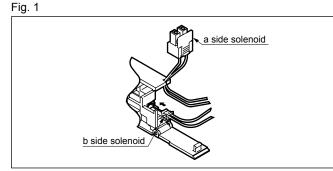
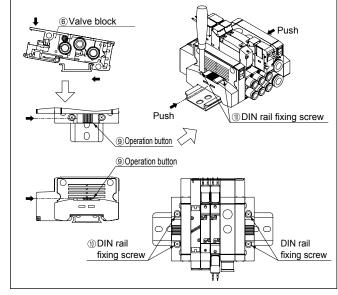


Fig. 2



Selection of model No. of socket assembly for expansion

Calculate the distance W between the expansion position and the wiring block (Fig. 3), and select an appropriate cable length from [Table 1]. Note that the required socket assembly differs between the a side solenoid and b side solenoid.

While Fig. 3 shows the wiring block with left side specifications, similarly calculate the distance W between the expansion position and the wiring block for the right side specifications.

Calculation of W

· For MN4G1

W=(10.5xn)+(16xm)+(10.5xl)

· For MN4G2

W=(16xn)+(18xm)+(10.5xl)

n: number of valve blocks m: number of supply and exhaust blocks l: number of partition blocks

· For MN4GX

Calculate W using the mix block width of 16.

[Model No. of socket assembly for expansion]

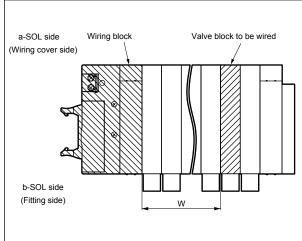
For a side solenoid

N4GR - SOCKET - ASSY - A - Selection No.

For b side solenoid

N4GR - RELAY - SOCKET - Selection No.





[Table 1] W length - selection No. compatibility table

| Colootion No. | Type of wiring | | | | | |
|---------------|-----------------|-----------------|-----------------|--|--|--|
| Selection No. | T10/11(R) | T30/5*/6* (R) | T7*/T8* | | | |
| 2 | | 0 | 25 or less | | | |
| 3 | 20 or less | Over 0 to 30 | Over 25 to 55 | | | |
| 4 | Over 20 to 70 | Over 30 to 80 | Over 55 to 105 | | | |
| 5 | Over 70 to 120 | Over 80 to 130 | Over 105 to 155 | | | |
| 6 | Over 120 to 170 | Over 130 to 180 | Over 155 to 205 | | | |
| 7 | Over 170 to 260 | Over 180 to 270 | Over 205 to 295 | | | |
| 8 | Over 260 to 350 | Over 270 to 360 | Over 295 to 385 | | | |
| 9 | Over 350 to 450 | Over 360 to 460 | Over 385 to 485 | | | |
| 10 | Over 450 to 570 | Over 460 to 580 | Over 485 to 605 | | | |

4GA/B

M4GA/B

MN4GA/B 4GA/B (mastr)

4GD/E

M4GD/E

MN4GD/E

4GA4/B4

MN3E MN4E

W4GA/B2

W4GB4 4TB

4L2-4/ LMF0 MN3S0 MN4S0

4SA/B0

4KA/B 4KA/B (mastr)

4F

4F (mastr) PV5G GMF

PV5 GMF PV5S-0

3QR 3QB MV3QR

3MA/B0

3PA/B

P/M/B NP/NAP/ NVP

4F*0EX

4F*0E

HMV HSV

2QV 3QV

SKH

PCD Silencer

TotAirSys (Total Air) TotAirSys (Gamma)

M4GA/B

MN4GA/B

4GA/B

4GD/E M4GD/E MN4GD/E 4GA4/B4 MN3E MN4E W4GA/B2 W4GB4 4TB 41 2-4 LMF0 MN3S0 MN4S0 4SA/B0 4KA/B 4KA/B (mastr) 4F

(mastr) PV5G GMF

P\/5

GMF PV5S-0

3QR

3QB

MV3QR

3MA/B0

3PA/B

P/M/B

NP/NAP/ NVP

4F*0EX

4F*0E

HMV

HSV

2QV

3QV

SKH

PCD

Silencer

TotAirSvs

(Total Air)

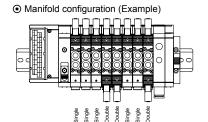
TotAirSys

(Gamma) Ending Technical data 2 How to expand reduced wiring manifold

4GA/B Instructions for connecting wiring base (standard wiring)

The corresponding rules for connector and valve on the wiring base vary depending on the reduced wiring specifications (T10, T11, T30, T50, T51, T52, T53, T6*, T7*, T8*). For connector wiring, check the connector No. printed on the base.

For wiring of mix (consolidation), the manifold configuration as shown in the right figure is indicated as an example.



by the arrow.

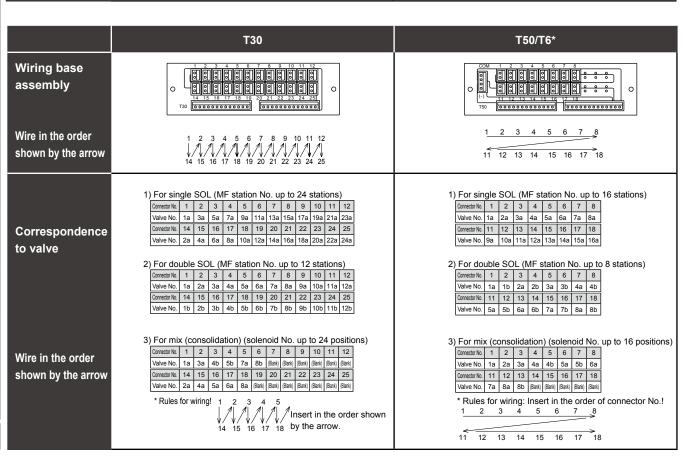
11

| i | | | 0, 0, 0, 0 0 0 0 | | |
|---|--------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--|--|
| | | T10 | T11 | | |
| | Wiring base assembly | | | | |
| П | Wire in the order | 16 15 14 13 12 11 10 9 | 24 23 14 13 | | |
| | shown by the arrow | 8 7 6 5 4 3 2 1 | 12 11 2 1 | | |
| | Correspondence to valve | 1) For single SOL only (MF station No. up to 16 stations) Tem: block No. | 1) For single SOL only (MF station No. up to 24 stations) Cometor No. 24 23 22 21 20 19 18 17 16 15 14 13 Valve No. 24a 23a 22a 21a 20a 19a 18a 17a 16a 15a 14a 13a Corrector No. 12 11 10 9 8 7 6 5 4 3 2 1 Valve No. 12a 11a 10a 9a 8a 7a 6a 5a 4a 3a 2a 1a 2) For double SOL only (MF station No. up to 12 stations) Corrector No. 24 23 22 21 20 19 18 17 16 15 14 13 Valve No. 12b 12a 11b 11a 10b 10a 9b 9a 8b 8a 7b 7a Corrector No. 12 11 10 9 8 7 6 5 4 3 2 1 Valve No. 6b 6a 5b 5a 4b 4a 3b 3a 2b 2a 1b 1a | | |
| | Wire in the order shown by the arrow | 3) For mix (consolidation) (solenoid No. up to 16 positions) Temt.block No. 16 15 14 13 12 11 10 9 Valve No. (Blank) (B | 3) For mix (consolidation) (solenoid No. up to 24 positions) Connector No. 24 23 22 21 20 19 18 17 16 15 14 13 Valve No. (Bath) (B | | |

by the arrow.

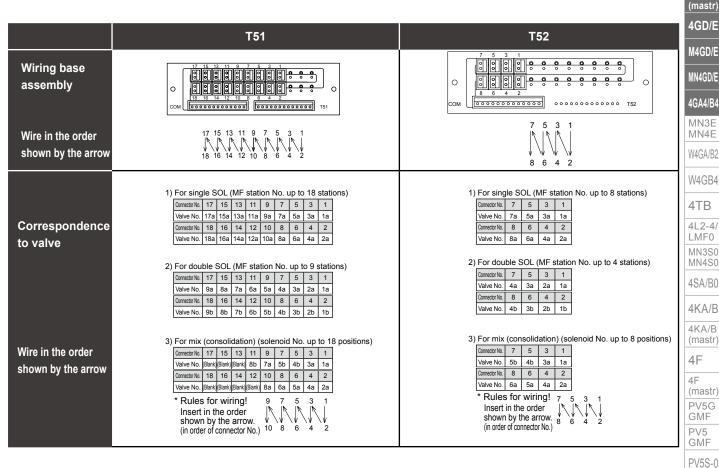
(in order of connector No.)

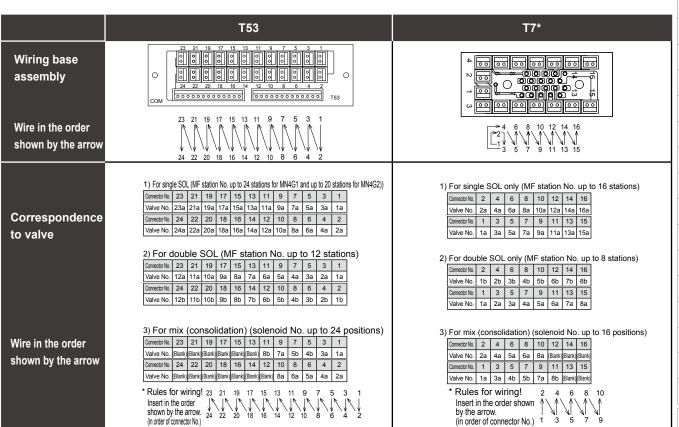
3 2



4GA/B M4GA/B MN4GA/B 4GA/B

Technical data 2 How to expand reduced wiring manifold





3QR

3QB MV3QR

3MA/B0

3PA/B

P/M/R

NP/NAP/

4F*0EX

4F*0E

HMV

HSV

2QV

3QV

SKH

PCD

Silencer

TotAirSys (Total Air)

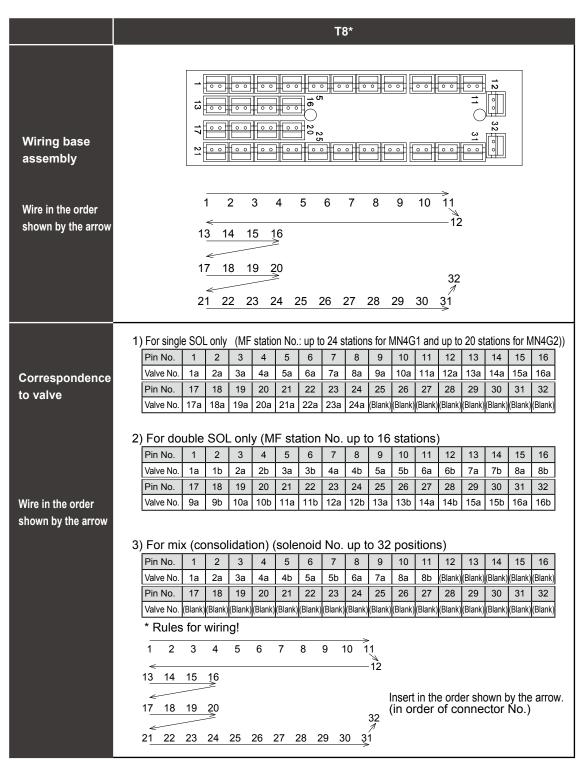
TotAirSys

(Gamma)

Endina

Technical data 2 How to expand reduced wiring manifold

4GA/B M4GA/B MN4GA/B 4GA/B (mastr) 4GD/E M4GD/E MN4GD/E 4GA4/B4 MN3E MN4E W4GA/B2 W4GB4 4TB 41 2-4/ LMF0 MN3S0 MN4S0 4SA/B0 4KA/B 4KA/B (mastr) 4F (mastr) PV5G **GMF** P\/5 **GMF** PV5S-0 3QR 3QB MV3QR 3MA/B0 3PA/B P/M/B NP/NAP/ NVP 4F*0EX 4F*0E HMV HSV 2QV 3QV SKH **PCD** Silencer TotAirSys

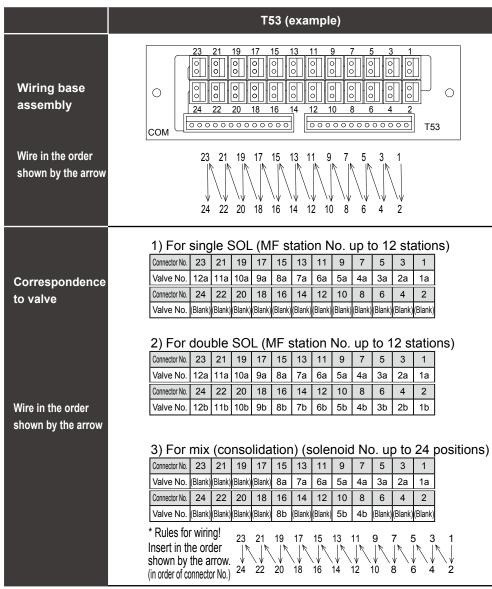


(Total Air)
TotAirSys
(Gamma)
Ending

Technical data 2 How to expand reduced wiring manifold

Instructions for connecting wiring base (double wiring)

The double wiring specifications correspond to the wiring of the double solenoid, regardless of the switching position classification of the solenoid valve to be mounted. Accordingly, the double SOL only of double wiring and standard wiring have the same wiring. As an example, T53 is shown in the figure below. Refer to this example.



4GA/B

M4GA/B

MN4GA/B

4GA/B (mastr)

4GD/E

M4GD/E

MN4GD/E

4GA4/B4

MN3E

MN4E W4GA/B2

W4GB4

4TB

4L2-4/ LMF0

MN3S0 MN4S0

4SA/B0

4KA/B

4KA/B (mastr)

4F

4F

(mastr) PV5G

GMF

GMF

PV5S-0

3QR

3QB MV3QR

3MA/B0

3PA/B

P/M/B

NP/NAP/

1441

4F*0EX

4F*0E

HMV

HSV

2QV 3QV

SKH

PCD

Silencer

TotAirSys (Total Air) TotAirSys (Gamma)

Ending