

PNEUMATIC CYLINDERS AND ITS ACCESSORIES FOR UPGRADED MPV 4x4

Ref: VFJ/VDO/SP/PNEUMATIC CYLINDERS

1. SCOPE : This specification pertains to supply of Pneumatic Cylinders Mounting Unit and its connecting units like double/single solenoid valves, Flow control valve, T-union, L-union, Toggle switch Single pole (1 way (ON-OFF) Toggle switch), Toggle switch Double pole (2 way 3 positions (ON-OFF-ON) Toggle switch), connecting flexible pipe, corrugated cover for flexible pipe as per sr. no 5 below.
2. END USE: This Pneumatic system is used to push and pull (opening and Closing) of the doors and to lift the bonnet in the special purpose automotive vehicles.
3. Following details to be provided along with the supply.
 - I. Make
 - II. Description of size /type
 - III. Month and year of manufacture
 - IV. Material used for all major items.
 - V. Warranty card / warranty certificate duly signed
 - VI. Recommended air pressure and conditions of use
 - VII. Recommended list of spare parts with their drawing numbers.
 - VIII. Test certificate for all pressure parts.
4. All suppliers who quote should give their proof demonstration on vehicle at VEHICLE FACTORY JABALPUR premises at their own cost.


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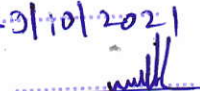

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तकनीकी सेवा अनुभाग
TECHNICAL SERVICE SECTION
वाहन निर्माण जयलपुर
VEHICLE FACTORY JABALPUR
तकनीकी पुनरीक्षण
TECHNICALLY VETTED

दिनांक/DATE: 23/10/2021


विभागीय अधिकारी
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JWM/TSS

5. ITEMS TO BE SUPPLIED

S.No	DESCRIPTION OF ITEMS	QTY	REMARKS
1	Pneumatic Cylinders for Door as per Sketch No.SK-MPV-01	02 Nos.	Sketch Copy Enclosed
2	Pneumatic Cylinder for Bonnet as per Sketch No.SK-MPV-02	01 No.	Sketch copy Enclosed
3	Single solenoid valve, spring centered, DC. 24 volts for pressure range up to 10 bar, Port size G ¼, Temp range -5 to 40 deg Centigrade with silencer & mounting facility	01 No.	For opening & closing of Bonnet.
4	Double solenoid valve, spring centered, DC. 24 volts for pressure range up to 10 bar, Port size G ¼, Temp range -5 to 40 deg Centigrade with silencer & mounting facility.	02 Nos.	For opening & closing of Doors.
5	Flexible pipe/plastic tube of size Dia 8x 1.25 mm thickness. Suitable for pneumatic pressure range up to 10 bar, made up of polyurethane material, covered with suitable corrugated pipe.	15 Meters.	
6	Flow control valve with adjustable flow in one direction.	06 Nos.	
7	Operating switches, for both internal and external operating system	02 sets	One set will be supplied as spare
8	Toggle switch Single pole (1 way (ON-OFF)Toggle Switch)	01 No.	
9	Toggle switch Double pole (2 way 3 positions (ON-OFF-ON) Toggle Switch).	02 No.	Dandaman Switch.
10	Corrugated cover pipe to connect air source to solenoid valves. Length of the pipe is 2.5 meters.	02 Nos.	
11	L-Union suitable for Double Solenoid valve and flexible tubing of size Dia 8x1.25mm	03 Nos.	
12	T-Union suitable for flexible tube of size Dia 8x1.25 mm	03 Nos.	
13	L-Union suitable for single solenoid valve and flexible tubing of size dia 8x1.25mm	02 Nos.	
14	L-union suitable for pneumatic cylinder and flexible tubing of size dia 8x1.25mm	06 Nos.	

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तकनीकी सेवा अनुभाग
TECHNICAL SERVICE SECTION
वाहन निर्मात्री उपखण्ड
VEHICLE FACTORY JABALPUR
एस.आई.एस तकनीकी विभाग
SISTECHNICALY VERIFIED

दिनांक/DATE 29/10/2021

विभागीय अधिकारी DO क.का.प्र. टीएसएस JWM/TSS

Note :-

- a. The items to be supplied are as listed above. However the supplier may quote for any additional items required to meet their assembly / system to work satisfactory.
- b. The temperature range in engine compartment will be -5 to 55° C. All the units which will be used for bonnet lifting should withstand this temperature range.
- c. Schematic diagrams of pneumatic systems to sketch: No. SK-MPV-03 is given for reference.
- d. Pneumatic system will be controlled by the driver and controlling switches will be in the panel board.
- e. One switch will be at the rear side for opening the doors when the vehicle is not in running condition and doors were closed.
- f. Toggle switch Single pole (1 way (ON-OFF) Toggle Switch) to cut off power supply of external rotary switch will be placed outside the vehicle near the rear door.
- g. Toggle switch Double pole (2 way 3 position (ON-OFF-ON) Toggle switch /Dandaman switch) will be placed inside the vehicle near Dandaman seat for opening/closing the doors.
- h. The pneumatic cylinder and its accessories should confirm to specification No. ISO:6431/DIN:24335/DIN 24562/ANY standard specification.
- i. Supplier should quote the specification Nos. for all the items supplied.

6. SAMPLE CLAUSE: 01 set of sample as per sr.no 5 will be supplied by the supplier and bulk supply will commence only after approval of sample.

7. WARRANTY:

Supplier should indicate period of warranty and its conditions related to Pneumatic cylinders.

8. All other commercial conditions are as per supply Order.

9. NOTE:

* VEHICLE FACTORY JABALPUR, reserves the right to reject the above item of supply if they do not meet the conditions specified in this specification, technically, on inspection, on receipt at Vehicle Factory, Jabalpur.

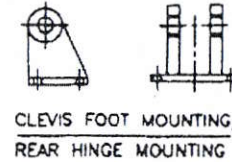
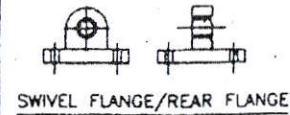
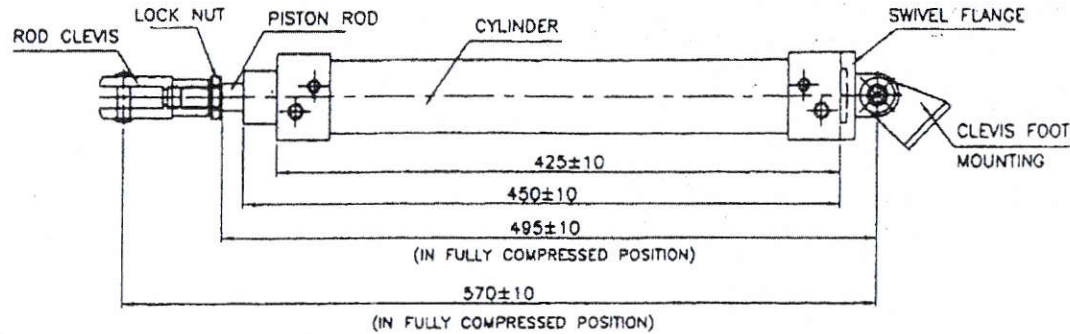
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OR. SITE, P.S. TAKRIKOTI, PUNRI/SH
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SKETCH NO : SK-MPV-01
PNEUMATIC CYLINDER FOR DOORS



ROD CLEVIS TO SUIT PISTON ROD/
UNIVERSAL PISTON ROD EYE MOUNTING

TECHNICAL DATA :

1. TYPE OF CYLINDER : DOUBLE ACTING CYLINDER WITH ADJUSTABLE CUSHIONING.
2. PISTON DIA : 50mm
3. STROKE LENGTH : 330±10mm
4. MEDIUM OF OPERATION : COMPRESSED AIR
5. OPERATING TEMPERATURE RANGE : -20 TO +80° C
6. MAX. PERMISSIBLE OPERATING PRESSURE : 10 TO 12 BAR
7. MATERIAL :
 PISTON ROD : STAINLESS STEEL
 BARREL BODY AND END COVERS : PRECISION STEEL/
 HARD ANODIZED ALUMINUM
 PISTON AND SEALS : POLYURETHANE/PERBUNAN
8. THE OPERATION, DIMENSIONS AND MOUNTING OPTIONS OF THIS CYLINDER ARE TO MEET THE SPECIFICATION OF ISO: 6431/
 DIN: 24335(VDMA)/DIN: 24562 (VDMA)/ANY STANDARD SPECIFICATION.

NOTE:

1. ALL DIMENSIONS ARE IN mm.
2. PNEUMATIC CYLINDER HAS TO FULFIL THE TECHNICAL DATA MENTIONED IN THE DRAWING.
3. CYLINDER SHOULD BE SUPPLIED ALONG WITH SUITABLE SWIVEL FLANGE, CLEVIS FOOT MOUNTING, LOCK NUT AND ROD CLEVIS AS SHOWN IN THE DRAWING AS A SET.
4. SWIVEL FLANGE SHOULD SUPPLY ALONG WITH SPHERICAL BALL, KING PIN, LOCK PIN LOCK PLATE AND MOUNTING BOLTS.
5. ROD CLEVIS SHOULD BE SUPPLIED ALONG WITH HEX. NUT AND KING PIN.
6. SKETCHES FOR MOUNTING THE CYLINDER LIKE SWIVEL FLANGE AND CLEVIS FOOT MOUNTINGS ARE GIVEN FOR REFERENCE AND SUPPLIER MAY QUOTE THEIR OWN TYPE OF MOUNTINGS.
7. WEIGHT OF THE DOOR TO BE OPERATED IS APPROXIMATELY 125 KG.
8. SAMPLE SHOULD BE APPROVED BEFORE BULK SUPPLY.

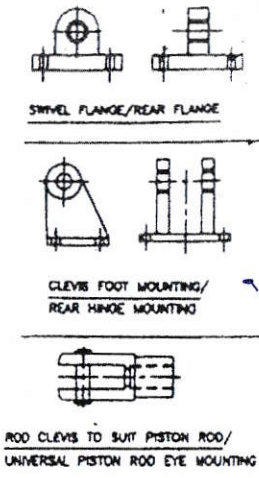
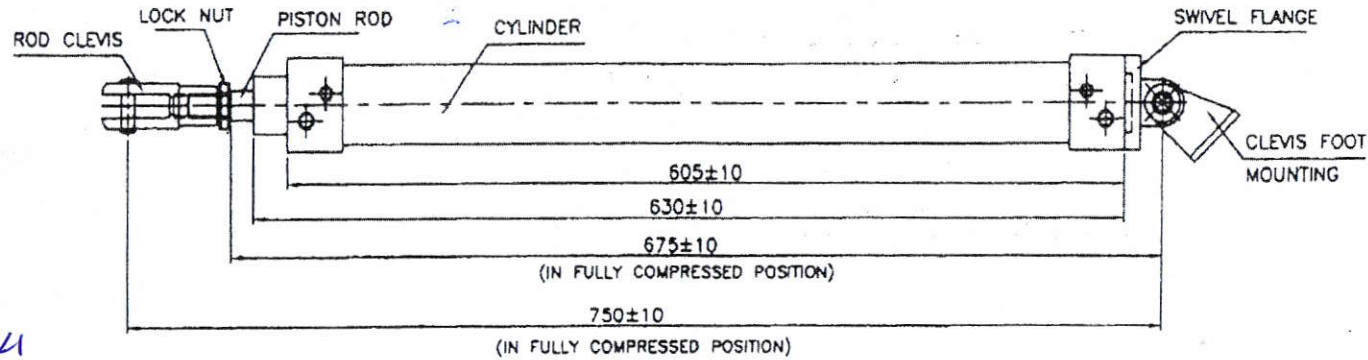
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VEHICLE FACTORY, JAWAHAR
NAGPUR
SIS TECHNICALLY CHECKED
DATE: 29/10/16
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SKETCH NO : SK-MPV-02
PNEUMATIC CYLINDER FOR BONNET



TECHNICAL DATA :

1. TYPE OF CYLINDER : DOUBLE ACTING CYLINDER WITH ADJUSTABLE CUSHIONING.
2. PISTON DIA : 50mm
3. STROKE LENGTH : 500±10mm
4. MEDIUM OF OPERATION : COMPRESSED AIR
5. OPERATING TEMPERATURE RANGE : -20 TO +80° C
6. MAX. PERMISSIBLE OPERATING PRESSURE : 10 TO 12 BAR
7. MATERIAL :
 PISTON ROD : STAINLESS STEEL
 BARREL BODY AND END COVERS : PRECISION STEEL/
 HARD ANODIZED ALUMINUM
 PISTON AND SEALS : POLYURETHANE/PERBUNAN
8. THE OPERATION, DIMENSIONS AND MOUNTING OPTIONS OF THIS CYLINDER ARE TO MEET THE SPECIFICATION OF ISO: 6431/
 DIN: 24335(VDMA)/DIN: 24562 (VDMA)/ANY STANDARD SPECIFICATION.

NOTE:

1. ALL DIMENSIONS ARE IN mm.
2. PNEUMATIC CYLINDER HAS TO FULFIL THE TECHNICAL DATA MENTIONED IN THE DRAWING.
3. CYLINDER SHOULD BE SUPPLIED ALONG WITH SUITABLE SWIVEL FLANGE, CLEVIS FOOT MOUNTING, LOCK NUT AND ROD CLEVIS AS SHOWN IN THE DRAWING AS A SET.
4. SWIVEL FLANGE SHOULD BE SUPPLIED ALONG WITH SPHERICAL BALL, KING PIN, LOCK PIN LOCK PLATE AND MOUNTING BOLTS.
5. ROD CLEVIS SHOULD SUPPLY ALONG WITH HEX. NUT AND KING PIN AS PER DIN 439.
6. SKETCHES FOR MOUNTING THE CYLINDER LIKE SWIVEL FLANGE AND CLEVIS FOOT MOUNTINGS ARE GIVEN FOR REFERENCE AND SUPPLIER MAY QUOTE THEIR OWN TYPE OF MOUNTINGS.
7. WEIGHT OF THE BONNET TO BE OPERATED IS APPROXIMATELY 90 KG.
8. SAMPLE SHOULD BE APPROVED BEFORE BULK SUPPLY.

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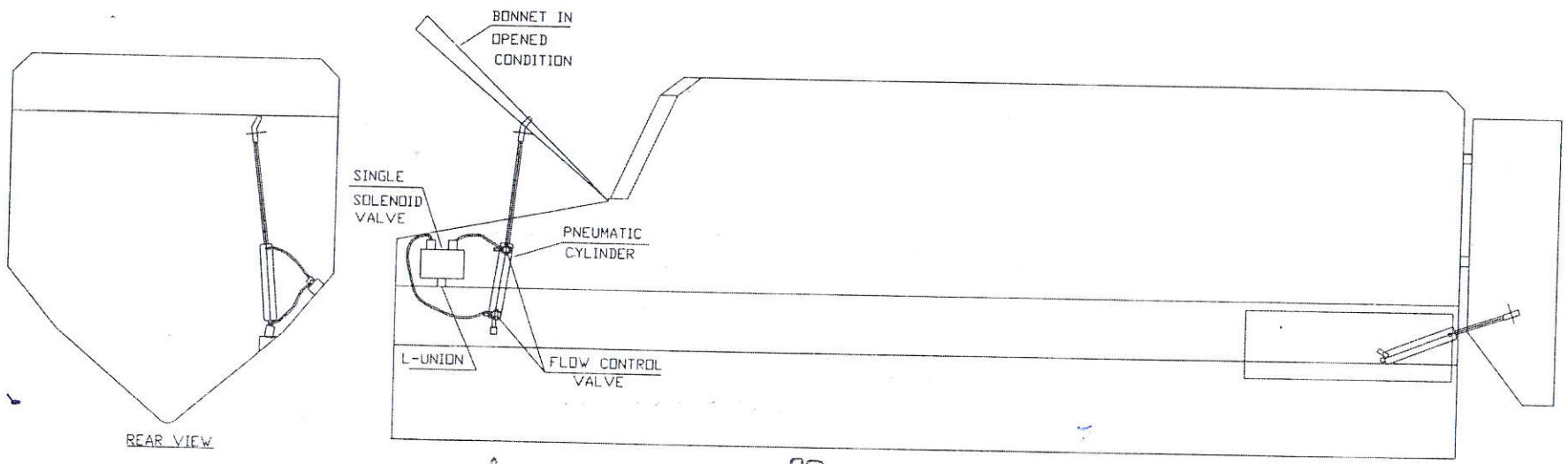
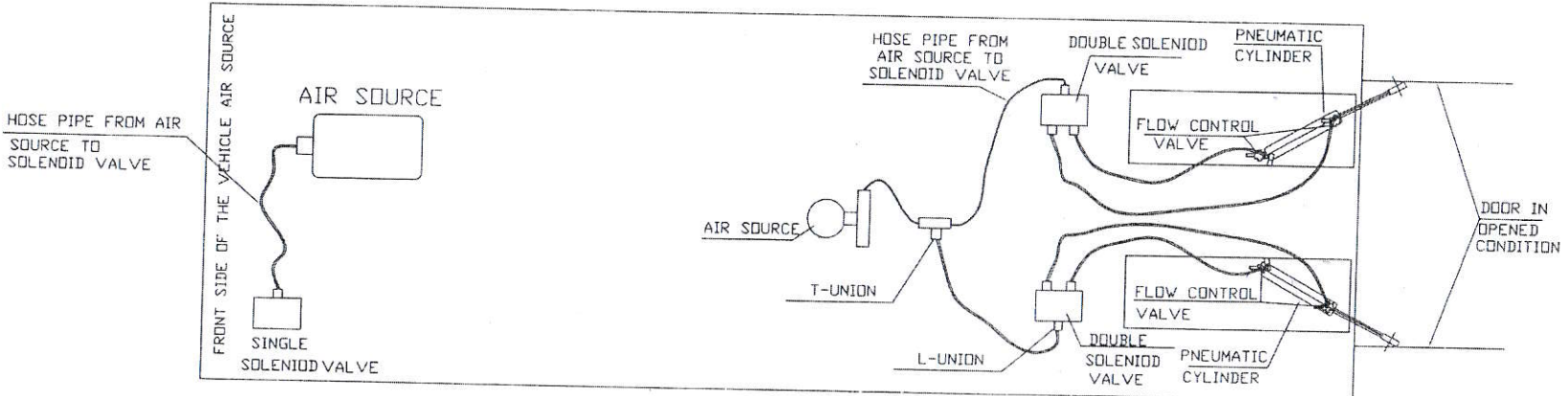
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SKETCH NO: SK-MPV-03 SCHEMATIC DIAGRAM OF PNEUMATIC SYSTEM FOR DOOR OPENING AND BONNET LIFTING



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