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SINGLE LINE

LUBRICATION SYSEM

2023 V1.1
LUBRICATION SYSTEM
FOR
SINGLE LINE

烟台西索润滑技术有限公司
www.cisolube.com
Yantai Ciso Lubrication Technology Co.,Ltd
Tel:+86 400-800-9400

Company Introduction

Yantai CISO Lubrication Technology Co., Ltd. is a high-tech enterprise specializing in R&D, production and sales of centralized lubrication systems and hydraulic equipment. The centralized lubrication systems produced by our company have the characteristics of high stability, strong reliability, good sealing, and high output pressure. The products and services currently have covered petrochemical, wind power generation, construction machinery, agricultural machinery, rail transit, medicine and other industries, and it is a leading solution provider in the industry.

The company adheres to the concept of "integrity-based, quality first, and continuous innovation" to provide customers with A+ ideal solutions to meet the different needs of customers. Through years of research and development and production practice, from product design to accessories selection , product assembly, finished product testing and sales services, to ensure product quality.

Certificate

高新技术企业

证书

企业名称：烟台西索润滑技术有限公司　　证书编号：GR202137006965

发证时间：2021 年 12 月 10 日　　有 效 期：三年

批准机关：

UDEM

MACHINERY DIRECTIVE
ATTESTATION OF CONFORMITY

Technical file of the company mentioned below has been inspected and audit has been completed successfully.
2006/42/EC Machinery Directive Annex VIII has been taken as references for these processes.

Company Name : Yantai CISO Lubrication Technology Co., Ltd

Company Address : No.30, Chuangye Road, Gaoxin District, Yantai City, Shandong Province, China

Related Directives and Annex : 2006/42/EC Machinery Directive/Annex VIII

Related Standards : EN ISO 12100:2010; EN 60204-1:2018; EN 809:1998+A1:2009

Product Name : Electric lubrication pump

Report No and Date : EASY03222127M

Product Brand/Model/Type : GT-PLUS,GM,GW,GT-MAX,GP-212

Certificate Number : M.2023.206.C89410
Initial Assessment Date : 23.08.2023
Registration Date : 24.08.2023
Reissue Date/No : -
Expiry Date : 23.08.2028

UDEM International Certification Auditing Training Centre Industry and Trade Inc. Co.

The validity of the certificate can be checked through www.udem.com.tr. Upon completion of EC declaration of conformity,it is used solely at the manufacturer's responsibility. This certificate remains the property of UDEM International Certification Auditing Training Centre Industry and Trade Inc. Co. to whom it must be returned upon request. The above named firm must keep a copy of this certificate for 15 years from the registration of certificate. This certificate only covers the product(s) stated above and UDEM must be noticed in case of any changes on the product(s)

Address: Mutlukent Mahallesi 2073 Sokak (Eski 93 Sokak) No:10 Çankaya – Ankara – TURKEY
Phone: +90 0312 443 03 90 **Fax:** +90 0312 443 03 76
E-mail: info@udem.com.tr www.udem.com.tr

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Related Standards : EN ISO 12100:2010; EN 60204-1:2018

Product Name : Distributor

Report No and Date : EASY03222129M

Product Brand/Model/Type : DSP,DSPP,DSG,DSL

Certificate Number : M.2023.206.C89411
Initial Assessment Date : 23.08.2023
Registration Date : 24.08.2023
Reissue Date/No : -
Expiry Date : 23.08.2028

UDEM International Certification Auditing Training Centre Industry and Trade Inc. Co.

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Related Directives and Annex : 2006/42/EC Machinery Directive/Annex VIII

Related Standards : EN ISO 12100:2010; EN 60204-1:2018; EN 809:1998+A1:2009

Product Name : Mechanical drive lubrication pump

Report No and Date : EASY03222128M

Product Brand/Model/Type : PMV,PMM,PMN

Certificate Number : M.2023.206.C89412
Initial Assessment Date : 23.08.2023
Registration Date : 24.08.2023
Reissue Date/No : -
Expiry Date : 23.08.2028

UDEM International Certification Auditing Training Centre Industry and Trade Inc. Co.

AXEREGISTER

CERTIFICATE

N. CN23 – 24511C

This is to certify that the Occupational Health and Safety Management System of

Yantai CISO Lubrication Technology Co.,Ltd.

Unified social credit code: 91370600MA3M5MG60Y
Registered Address
No.30, Weisan Road, High-tech Zone, Yantai, Shandong
Office & Production Address
No.30, Chuangye Road, High-tech Zone, Yantai, Shandong, China

Has been independently assessed and found in conformance with the standard

ISO 45001:2018

For the following scope of activities:
Design and Processing of Ordinary Mechanical Equipment (Lubrication Pump Station, Hydraulic Station)

IAF 18

For further and updated information regarding any changes in the status of this certification please contact via phone under +355696037861 / +39 0296368458 or via email to info@axe-register.com or verify directly on the website www.axe-register.com by using the organization name or the certificate number.
The validity of this certificate is subject to periodic yearly surveillance audit and triennial review of the entire management system of the certified organization.

Date of first registration	**19/10/2023**
Date of this certificate	**19/10/2023**
Date of expiry	**18/10/2026**

CS 007 26.02.18

Signatory of EA/MLA, Mutual Recognition Agreements

On behalf of the Certification Body
AXE REGISTER Ltd
Antonio Llabla
Technical Director

During validity period of the certificate a surveillance audit should be carried out once within each 12 months. The label should be pasted on specified position of right side of the certificate then it is valid. The certificate can be checked out at CNCA website (www.cnca.gov.cn).

(1) Surveillance Audit Mark　(2) Surveillance Audit Mark

AXE REGISTER

AXEREGISTER

CERTIFICATE

N. CN23 – 24511B

This is to certify that the Environmental Management System of

Yantai CISO Lubrication Technology Co.,Ltd.

Unified social credit code: 91370600MA3M5MG60Y
Registered Address
No.30, Weisan Road, High-tech Zone, Yantai, Shandong
Office & Production Address
No.30, Chuangye Road, High-tech Zone, Yantai, Shandong, China

Has been independently assessed and found in conformance with the standard

ISO 14001:2015

For the following scope of activities:
Design and Processing of Ordinary Mechanical Equipment (Lubrication Pump Station, Hydraulic Station)

IAF 18

Date of first registration	**19/10/2023**
Date of this certificate	**19/10/2023**
Date of expiry	**18/10/2026**

CS 007 26.02.18

Signatory of EA/MLA, Mutual Recognition Agreements

On behalf of the Certification Body
AXE REGISTER Ltd
Technical Director

AXE REGISTER

北京思坦达尔认证中心
BEIJING STANDARD CERTIFICATION CENTRE

QUALITY MANAGEMENT SYSTEM CERTIFICATE

Registration No. 064-22-Q-0152-R1-S

This is to certify that
Yantai Ciso Lubrication Technology Co., Ltd

Unified social credit code：91370600MA3M5MG60Y
Registration Address: No.30 Weisan Road, High-Tech Zone, Yantai City, Shandong Province,264003
Produce / Office Address: No.329 Duo Shan Road, Muping District, Yantai City, Shandong Province,264100

Which is in conformity with

GB/T19001-2016/ISO9001:2015

Scope of Certification

Design, processing of general mechanical equipment (lubrication pump station, hydraulic station) and related management activities

Issue date：Jan 18,2022　　Term of validity：Jan 17,2025

主任签字：

中国认可 国际互认 管理体系 MANAGEMENT SYSTEM CNAS C064-M

NOTE： Before 01-17 of each year for annual review, this certificate will continue to be effective after the review.

目录

CONTENTS

Single line lubrication system

For numerous lubrication points with smallest dosing quantities for delivering oil and grease.

The Advantages

- Connecting numerous lubrication points
- Smallest dosing quantities
- Compact construction
- For oil or grease
- Cost-effective
- Easy assembly

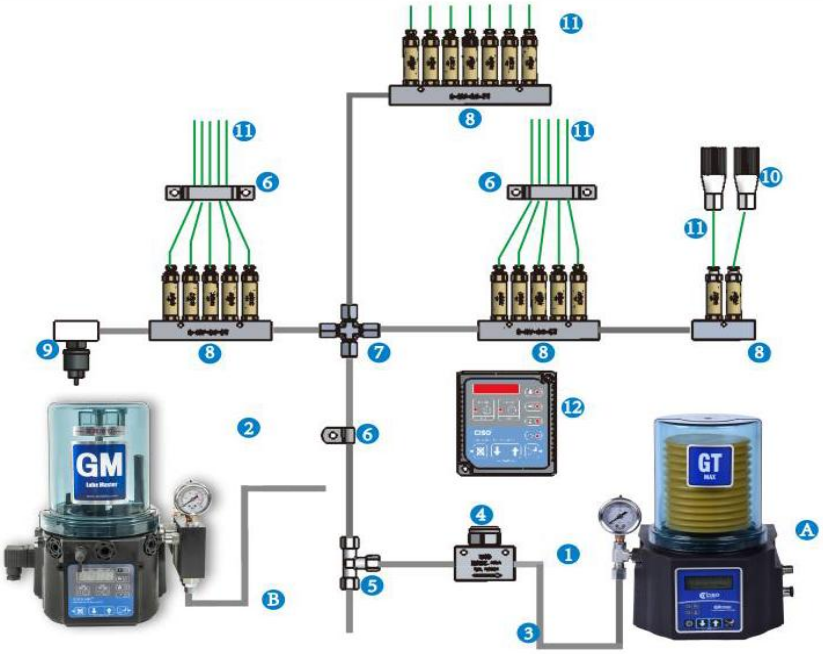
The system components

- Manual, pneumatic and electrical pumps
- Distributor strips
- Dosing valves
- Screwed fittings
- Lines
- Control and check devices

The function

The dosing values are impinged on the main line with the pump – dynamically operating metering valves with a pressure surge, static operating dosing elements with slow pressure build-up. These thus transfer the respective quantity of the lubricant to the friction point.During the following relief phase, the lubricant is restacked in the dosing valves for the next lubrication process.

Struture diagram



A — GT-MAX
B — GMS PUMP
1 — relief valve elements
2 — Pressure gauge
3 — Pipelines
4 — Filter
5 — Tee branching pleces
6 — Pipe clamps
7 — Four branching pleces
8 — Volumetric distributor
9 — Check device（pressure switch）
10 — Brush for smearing oil
11 — Line to the lubrication point
12 — Controller

Single line lubrication system

1. Application:

The single line lubrication system is the most widely spread total loss lubrication system in the general engineering field.
Small quantities of oil or fluid grease are fed intermittently in the desired cycle time of the lubrication point. Example 5 to 1000 mm³ dosing volume, to 25 bar pressure at lubrication point, for a pump pressure of 25 to 150 bar.

Special features:

- Supply to numerous lubrication points
- Flexible construction
- Exact dosing
- Easy expansion
- Point-target type of spraying possible, e.g. chain bolt lubrication

2. Mode of operation of the Ciso system :

The pump sucks the lubricant from the container. The lubricant reaches the main line, distributor strips and the dosing valves through the relief valve. For every pressure build-up controlled by the pressure control valve, the dosing valves deliver the lubricant to the lubrication point via the lubrication line

In an automatically operated system, the pressure build-up is controlled by a max. pressure switch and the electronics. The pump is switched-off after the pressure build-up and again switched-on after the end of the cycle time. Pressure build-up from the unit up to the farthest metering valve requires a specific time depending upon the length of the line andflowability of the lubricant.

A level control monitors the constant level of the lubricant in the container. By stopping the pump, theentire system is relieved using the relief valve at ca. 1 bar. This is important for the function of the dosing valve and can be controlled via a min. pressure switch.

3. Design:

The first, determine the lubrication point,lubrication requirements, the lubrication and interval time.When determining the lubrication point requirements, it is best to meet the principle of small dose, short cycle.At the same time, the unloading time of the main road and the unloading time of the flowing grease must be taken into account, because of the temperature and the long pipeline, which leads to extra time.The main line and the dosing valve are laid such that self-venting is possible,On the main line end and higher points of the system, dosing valves must be arranged withoutlets on the top.There must no air inclusions.

Single line lubrication system

The pipeline resistance of the system must be kept as little as possible so that pressure can build-up quickly at the end of the line.The more viscid the lubricant, the bigger should the line cross section be designed.If the pump delivers a flow rate much more than the system can take,and the pressure switch fails,then the lubricant will be discharged from the unloading valve to avoid damage caused by increasing pump pressure.

Line dimensioning:

Main line:

High pressure resin hose	11X6mm	For main road > 15 m
High pressure resin hose	8.6X4.2mm	For main road > 10 m
Steel pipe	6X1mm 8X1mm	For main road < 10 m
Nylon pipe	6X1.2mm	For main road < 10 m

Lubrication lines:

Nylon pipe	4X0.75mm
metallic pipe	4X0.7mm

Generally, the lines should be kept as short as possible particularly for viscid lubricants. Moreover, individual lubrication lines must not be longer than 3 m.

Pretests on an design true to the original are required for large systems or highly viscous lubricants. Pressure build-up and relief time must be determined here.

4. Lubricant:

Generally,NO.NLGI000-1Flowing lubricating grease is used in our lubrication system.However, attention should be paid that these NBR seals are not affected. The function of synthetic lubricants or mineral oils can be checked with aggressive additives, on request.We can provide our customers with in-factory testing of lubricants. If you need special lubricants for system testing, please contact sales staff.

Attention:

do not possibly mix different lubricants! Ideally, the system must be cleaned.

No way must greases be mixed with non-compatible types of soaps.

5. Assembly:

principle, cleanliness customary to the hydraulic system must be observed.There should be no impurity iron filings in the system, especially after pipe cutting!

Refer to the mechanical manual for torque, especially when using copper fittings.

Nylon pipe to be equipped with the corresponding copper bushing.

Single Line Lubrication Pump

For numerous lubrication points with smallest dosing quantities for delivering oil and grease.

GT-MAX PUMP

- Voltagesv: 24 V
- Output: 10ml/min
- Pressure: Max. 10Mpa
- Reservoir: 700CC

GMS PUMP

- Voltagesv: 24 V (optional 12 V).
- Output: Max. 12 ml/min(one pump element)
- Pressure: adjustable from ±50 to 100 bar
- Reservoir: 1.5L/2L/4L

GTS PUMP

- Voltagesv: 12/24 V 220V
- Output: Max. 15 ml/min(one pump element)
- Pressure: adjustable from ±70 to 150bar
- Reservoir: 2L/4L/8L

GPS PUMP

- Voltagesv: 24 V (optional 12 V).
- Rated flow: Max. 15 ml/min(one pump element)
- Pressure: adjustable from ±70 to 150bar
- Reservoir: 8L/16L/20L

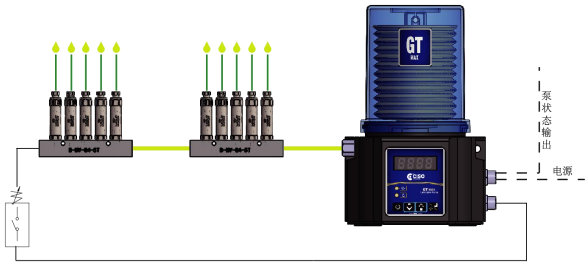
GT-MAX

Cartridge Lubrication pump

"GT-MAX AUTOMATIC PUMP" is an ideal small and medium grease pump.CISO'S GT-MAX can be used in Single line lubrication system。

Single line lubrication system：10MPa
10ml/min

The outlet pressure gauge module GT-Max is compact in appearance and can be supplied with a oil pan for circulating fat filling or a pre-filled grease is optional.

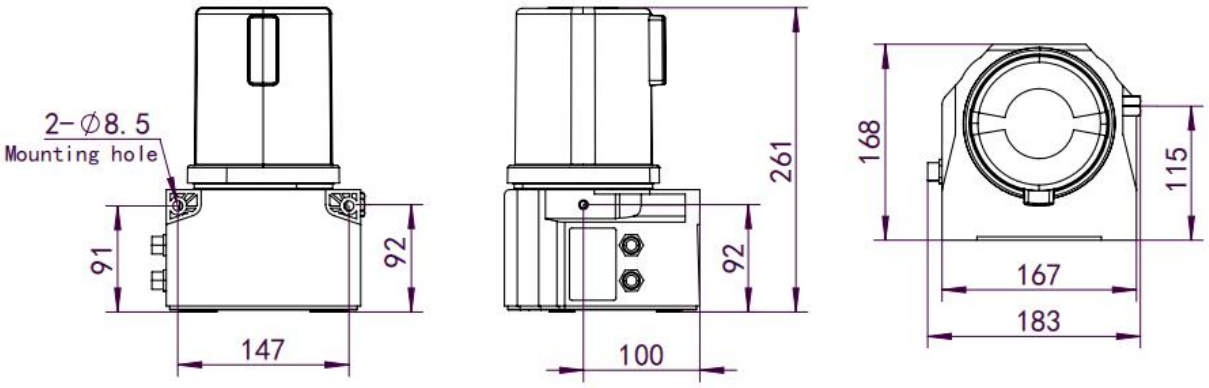


Functions

- Compact design
- For use in Single-line lubrication systems
- Operating preasure：10MPa
- Chinese and english control system
- CE certification

Technical characteristic	
Output	10ml/min
Pressure	10Mpa
Temperature	-30 - 70℃
Voltage	24V
Volume	700CC
Lubricant	NLGI 000 00 0
Outlet	LEFT 1
Outlet	6mm

Dimensions:



Order Information:

Type	Reservoir	Voltage	Part number
Simple Single line lubrication system	Cartridge	12V	18C101
		24V	18C001
Automatic Single line lubrication system	Cartridge	12V	18C111
		24V	18C011

Cartridge

Description	Part Number	Reservoir
Grease	CSL-C100	700CC
Grease	CSL-J100	700CC

Pump connection cable

Description	Part Number
Connecting wire/4-core	MP035
Connecting wire/5-core	MP036

Refined structure and stable performance

Characteristics

- Pump oil and grease
- Reservoirs:
1.5L
2L
4L
- Voltages:
12VDC
24VDC
- Multiple grease filling ways
- Powerful centralized control system
- CE Certification
- Design patent
- IP65

Applications:

Earth-moving macines
Wind energy
Small and medium lubrication system

DESIGN AND ADVANCED SOLUTIONS

With compact and lightweight appearance design, can transport thin oil and grease.
With special materials, to achieve excellent anti-shock ability.
Special design of pump make it easy to observe the oil level and prevent UV radiation, prevent oil deterioration.

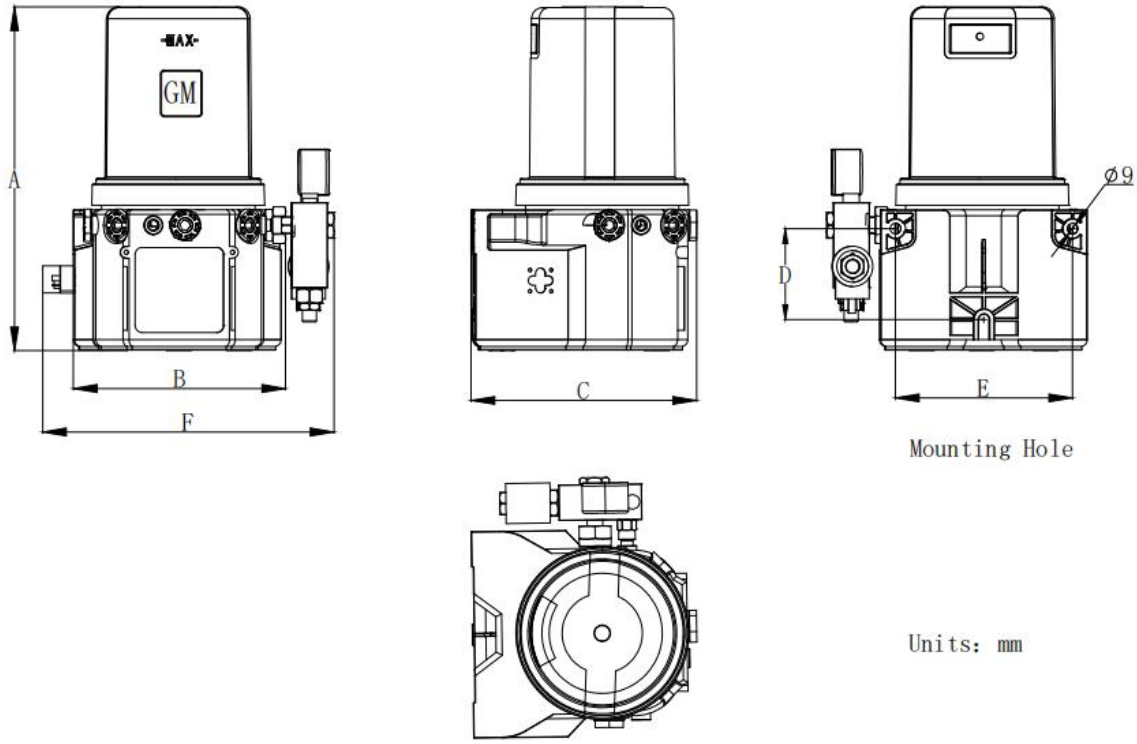
There are two model modes:

Standard： can be managed by an external PLC. Since it does not come withan internal control unit, this is the most economic solution for lubricating yoursystems.

Automatic: With integrated control system, which can be set up local running time.Equipped with local operation and alarm light, alarm with buzzer, provide low level and pulse alarm, which can be combined with the monitor of distributor units into a perfect operating system.

TECHNICAL CHARACTERISTICS	
Voltages	24 Vdc (optional 12 Vdc).
Unit of pump outlets	1
Outlet thread	G1/4
Output	max. 16 ml/min(one pump element)
Operating preasure	adjustable from ±50 to 100 ba
Reservoir Capacity	1.5L/2L/4L
Lubricants	OIL、000、00、0、1
Operating temperatures	-40-90℃

Dimensions:



Reservoirs	A	B	C	D	E	F
1.5L	292	180	190	77	150	247

Ordering information:

23- □ □ □ □ □ □ □

Type D= stirrer E= with follower plate
Reservoir 1=1.5L 2=2L 4=4L
Voltages 2=12VDC 4=24VDC
Timer 1= with timer 6= without timer
Low Level L= with level M= without level
Lubricant G= Grease O= Oil
Fill Type Blank = Grease Nipples F= Quick connection C= Top cap (Not suitable for Follower plate type pump)

Characteristics

- Pump oil and grease
- Reservoirs:
2L
4L
6L
8L
- Voltages:
12VDC
24VDC
220V
- Multiple grease filling ways
- Powerful centralized control system
- CE Certification
- Design patent
- IP65

Applications:

Mobile plant machine
Machine tools
Heavy VEHICLES
Heavy industries
Chain&Gear

THE SMALL PUMP PACKAGE WITH BIG FEATURES

DESIGN AND ADVANCED SOLUTIONS

GTS pump is a piston pump predisposed to operate with a maximum of one pumping unit,Its design is particularly suitable for single-line systems.

There are two model modes:

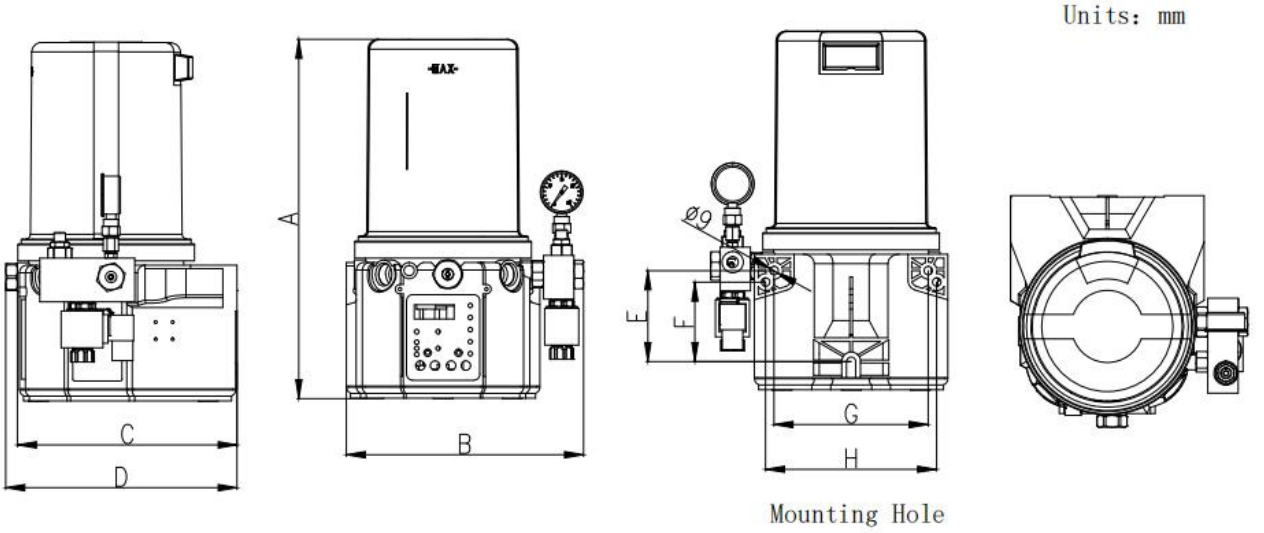
Standard: can be managed by an external PLC. Since it does not come with an internal control unit, this is the most economic solution for lubricating your systems.

Automatic: With integrated control system, which can be set up local running time.Equipped with local operation and alarm light, alarm with buzzer, provide low level and pulse alarm, which can be combined with the monitor of distributor units into a perfect operating system.

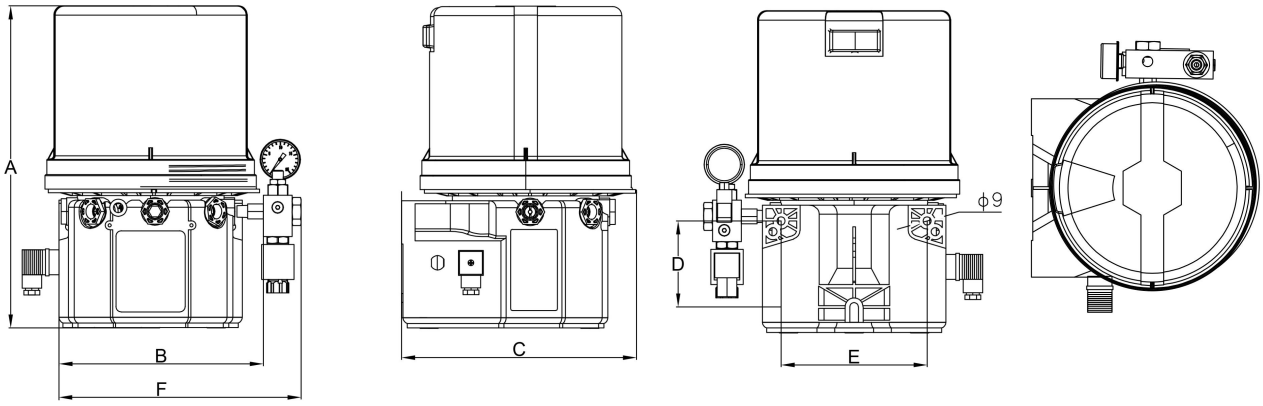
Technical information:

TECHNICAL CHARACTERISTICS	
Voltages	12VDC、24VDC、220V
Unit of pump outlets	1
Outlet thread	G1/4
output	max. 15 ml/min(one pump element)
Working pressure	adjustable from ±70 to 150bar
Reservoir Capacity	2L/4L/6L/8L
Lubricants	OIL、000、00、0、1
Operating temperatures	-40-90℃

Dimensions:



Reservoirs	A	B	C	D	E	F	G	H
2L	338	255	229.5	248	95.5	83.5	162.5	180
4L	378	255	229.5	248	95.5	83.5	162.5	180



Reservoirs	A	B	C	D	E	F
6L	358	256	256.5	95.5	162.5	255

Ordering information:

21- □ □ □ □ □ □ □

Type D= stirrer E= with follower plate
Reservoir 2=2L 4=4L 6=6L 8=8L
Voltages 2=12VDC 4=24VDC 6=90-240VAC
Timer 1= with timer 6= without timer
Low Level L= with level M= without level
Lubricant G= Grease O= Oil
Fill Type Blank = Grease Nipples F= Quick connection C= Top cap (Not suitable for Follower plate type pump)

Protection cover:

DESCRIPTION	PART NUMBER
PC	97116

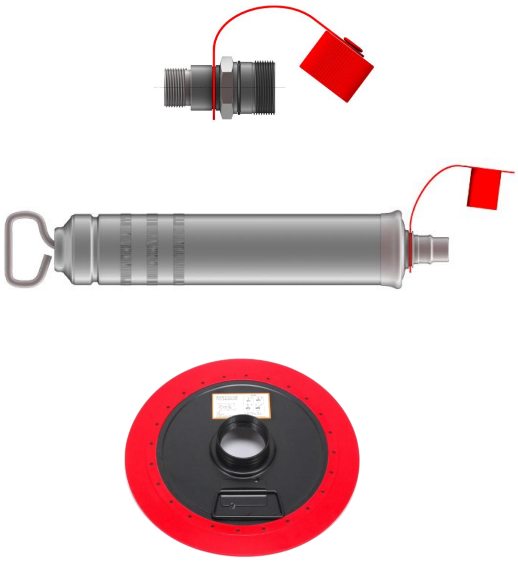
Mounting bracket:

DESCRIPTION	PART NUMBER
Mounting bracket	90234

Pressure switch:

DESCRIPTION	PART NUMBER
10MPa	96517
10MPa	96518
15MPa	96519
20MPa	96520
25MPa	96521

Follow plate ang grease gun kits:

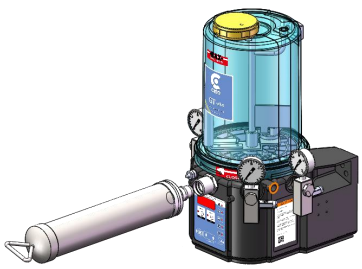


Description	Part number	Grease fitting
Grease Gun Kits	MG500	Standard Connector
Grease Gun Kits	MG500-C	Grease fitting with check valve

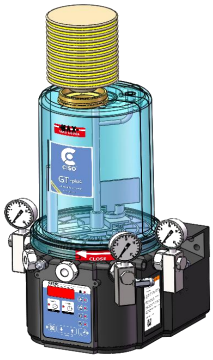
Description	Part number	Oil drum
Follower Plate	95660C	16KG

Fill grease type:

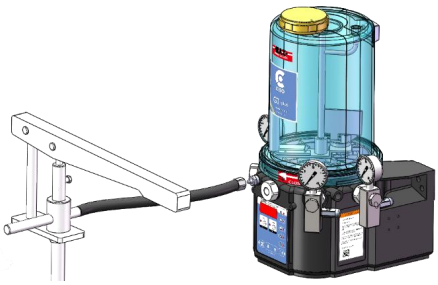
❶ with grease gun kits



❷ with cartridge

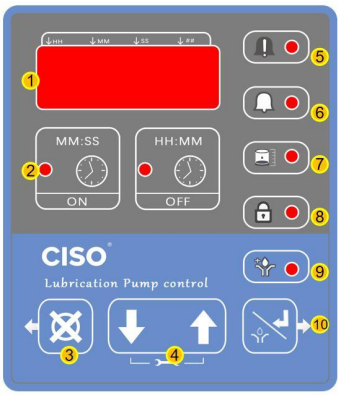


❸ with hand pump



Control System:

- Clear panel
- Programs that can be designed
- It can be password protected
- Sound alarm
- Low level alarm
- Accept proximity switch
- Excellent shock resistance
- pre lubrication button
- IP65



1. Easy to read LED display
2. Legible on/off instructions
3. Reset function
4. Easy to use navigation keys
5. Alarm signal of lube system shutdown
6. Warning signal prior to lube system shutdown
7. Low level indication
8. Access to the control device is password protected
9. Pre-lube capability
10. Manually run/Confirm

Press and hold the "↑+↓" keys at the same time to enter the setting mode,Press to enter page browsing.

↓

Set run time

The LED adjacent to the ON part of the clock lights up, indicating that you are setting the boot time parameters, you can press "↑or↓" to adjust the time.

↓

Set shutdown time

The LED adjacent to the OFF section clock lights up to indicate that you are setting the shutdown time parameter. Press "↑ or ↓" to adjust the time.

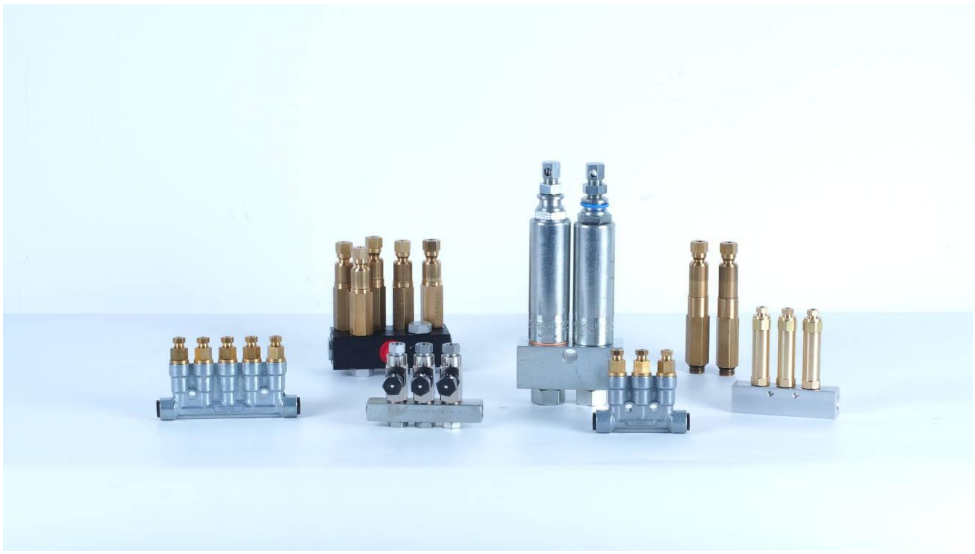
↓

Press  to start running

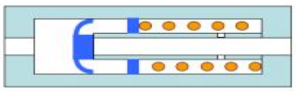
Metering Valves For Single Line Lubrication System

Characteristics

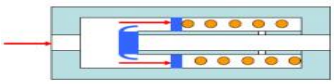
- Pressurized ration distributor valve
- For Single Line Lubrication System
- Standard material : copper
- Reliable and efficient
- Operating pressure action pressure > 1.5MPa back pressure < 0.5MPa
- Measured Accurately Stable performance
- Dual-seal、Leak-tightness



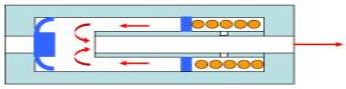
Working principle:



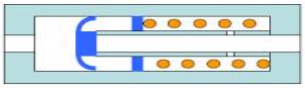
Position 1:
Initial position.Main line is ventilated. Return valve in the initial position.



Position 2:
Dosing through pulse initiated.Return valve in the restacking position.Fill lubricant.

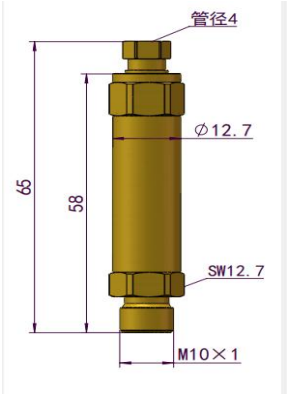


Position 3:
Dosing.Return valve encircles the main line. Spring force of the seal doses the lubricant.



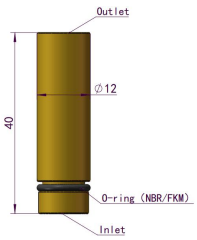
Position 4:
Back to the initial position

Single Line Lubrication Metering Valves



MV Metering dispensers:

- Material: Brass
- Output: 0.06/0.1/0.2/0.3/0.4/0.5ml
- Pressure: Max 80 Bar
- Operating pressure: 30-40 Bar
- Lubricants: NLGI 000 00 0

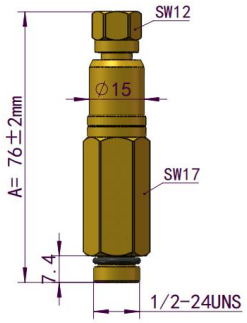


33V Metering dispensers:

- Material: Brass
- Output: 0.06/0.1/0.2ml
- Pressure: Max 80 Bar
- Operating pressure: 30-40 Bar
- Lubricants: NLGI 000 00 0

T86 Metering dispensers:

- Material: Aluminium
- Output: 0.03/0.06/0.1/0.16ml
- Pressure: Max 80 Bar
- Operating pressure: 30-40 Bar
- Lubricants: NLGI 000 00 0



55V Metering dispensers:

- Material: Brass
- Output: 0.05/0.1/0.15/0.2/0.25/0.4/0.8ml
- Pressure: Max 200 Bar
- Operating pressure: 40-80 Bar
- Lubricants: NLGI 000 00 1

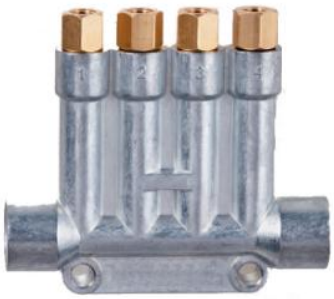
Single Line Lubrication Metering Valves

VL-32 injector valves

- Material: Carbon steel
- Output: 0.016-0.131 ml adjustable
- Pressure: Max 240 Bar
- Operating pressure: 83-240 Bar
- Lubricants: NLGI 000-2

VL-1 injector valves

- Material: Carbon steel
- Output: 0.131-1.31 ml adjustable
- Pressure: Max 241 Bar
- Operating pressure: 128-241 Bar
- Lubricants: NLGI 000-2



VMN injector valves

- Material: Carbon steel
- Output: 0.1ml、0.2ml、0.4ml
- Pressure: Max 80 Bar
- Operating pressure: 20-80 Bar
- Lubricants: fluid grease of NLGI 000, 00

MV Metering Valves

Accurate Dosing Elements For Single-Line Lubrication System

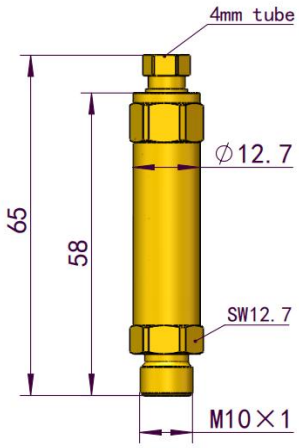
"MV Metering Valves"Is a distributor elements for economical light equipment.CISO's MV Standard material is Brass.Carbon steel can be customized.

Action pressure：≧ 1.5MPa

Back pressure：≦ 0.5MPa

Max.pressure： 8MPa

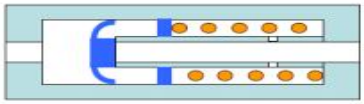
Standard outlet: 4mm，sleeve or ferrule for choice



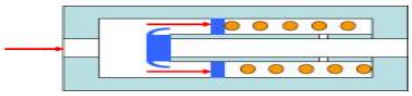
Characteristics

- Pressurized ration distributor valve
- Standard material : Brass
- Reliable and efficient
- Measured Accurately,Stable performance
- Dual-seal、Leak-tightness

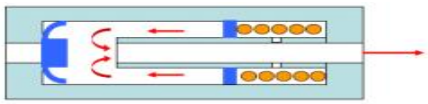
Working principle：



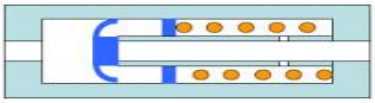
Position 1:
Initial position.Main line is ventilated. Return valve in the initial position.



Position 2:
Dosing through pulse initiated.Return valve in the restacking position.Fill lubricant.



Position 3:
Dosing.Return valve encircles the main line.
Spring force of the seal doses the lubricant.



Position 4:
Back to the initial position

Technical characteristics	
Outlets	1 to 8
Flow rate	0.06ml、0.1ml、0.2ml、0.3ml、0.4ml、0.5ml
Lubricant	NLGI 0, 00,000
Operating temperature	–30 to +170 °C
Operating pressure	Max. 8 Mpa
Material	brass，steel
Connection main line	M10*1
Connection outlet	4mm in O.D. tube

Ordering information of single MV metering valve

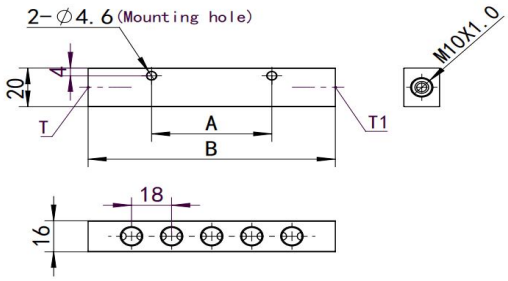
Type	Flow rate	Part number	Type	Flow rate	Part number
Sleeve nut fitting	0.06ml	MV-S06	Push-in Fitting	0.06ml	MV-Q06
	0.1ml	MV-S10		0.1ml	MV-Q10
	0.2ml	MV-S20		0.2ml	MV-Q20
	0.3ml	MV-S30		0.3ml	MV-Q30
	0.4ml	MV-S40		0.4ml	MV-Q40
	0.5ml	MV-S50		0.5ml	MV-Q50

Sleeve nut fitting

Push-in Fitting

distributor block:

Part Number	T/T1	Out Thread	Out Number	B	A
DB03304	M10*1	M10*1	1	39	-
DB04304	M10*1	M10*1	2	57	-
DB05304	M10*1	M10*1	3	75	18
DB06304	M10*1	M10*1	4	93	36
DB07304	M10*1	M10*1	5	111	54
DB08304	M10*1	M10*1	6	129	72
DB09304	M10*1	M10*1	7	147	90
DB10304	M10*1	M10*1	8	165	108



Note: The number of outlets can be customized.

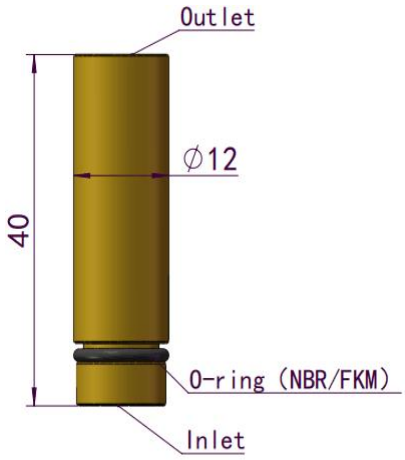
distributor block should be used with B-MV.The standard material is aluminum.If you want to order steel parts, please add the suffix -s to the original model.eg.: DB04304-S

Ordering information of complete set :

BMV	Q4	3T	10/10/10

MV metering valve material	
BMV = Brass	
SMV = Steel	
Outlet Connetor	
Q4= 4mm Push-in Fitting	
S4=4mm Sleeve nut fitting	
Number of metering points	
1T = 1 outlet	2T = 2 outlets
3T = 3 outlets	4T = 4 outlets
5T = 5 outlets	6T = 6 outlets
7T = 7 outlets	8T = 8 outlets
Flow rate	
06 = 0.06ml	30 = 0.3ml
10 = 0.1ml	40 = 0.4ml
20 = 0.2ml	50 = 0.5ml

33V metering valves



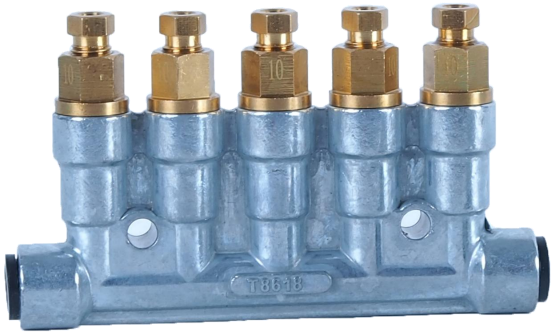
Action pressure: ≧1.5MPa
Back pressure: ≦0.5MPa
Standard outlet: 4mm
temperatures: -40-90℃

Ordering information:

Type	Output	Part number
Tube fitting	0.06ml	33V1206
	0.1ml	33V1210
	0.2ml	33V1220

T86 metering devices

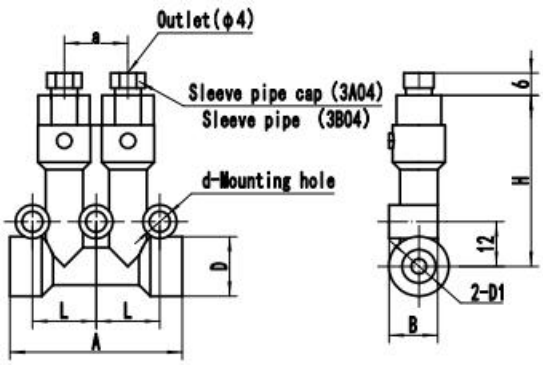
Action pressure: ≧1.5MPa
Back pressure: ≦0.5MPa
Standard outlet: 4mm
temperatures: -40-90℃



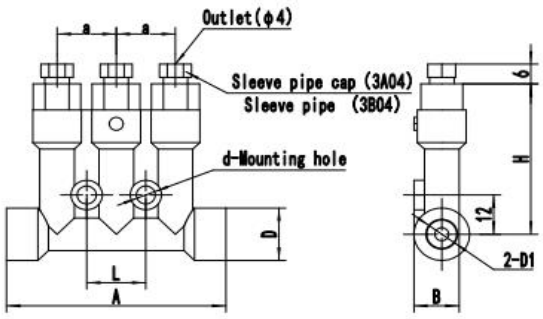
Ordering information:

Type	Output Number	Part number	Output	Remark
Tube fitting	2	T8616	0.03 0.06 0.10 0.16	AZ
	3	T8617		BZ
	4	T8619		CZ
	5	T8618		DZ

Dimensions:

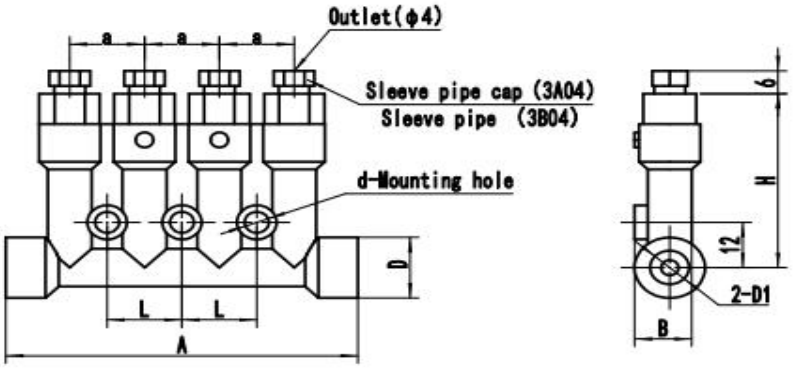


T8616

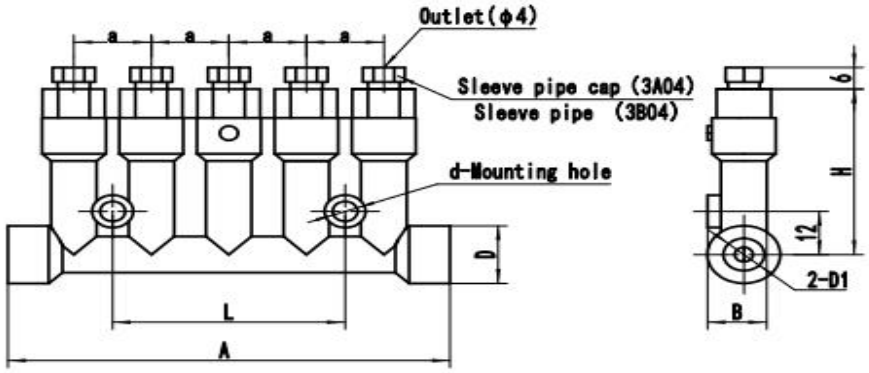


T8617

Dimensions:



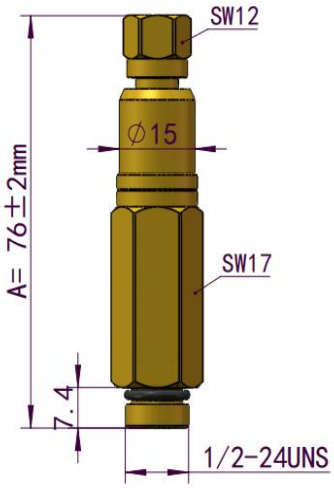
T8619



T8618

P/N	Dimensions							
	A	B	D	L	D1	H	a	d
T8616	46	13	16	17	9	46	17	5.5
T8617	63	13	16	17	9	46	17	5.5
T8618	97	13	16	51	9	46	17	5.5
T8619	80	13	16	17	9	46	17	5.5

55V metering valves



55V Metering dispensers:

- Material: Brass
- Output: 0.05/0.1/0.15/0.2/0.25/0.4/0.8ml
- Pressure: Max 200Bar
- Operating pressure: 40-80Bar
- Lubricants: NLGI 000 00 1
- Outlet Connetor: 6mm

55V Ordering information:

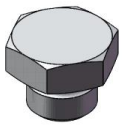
TYPE	Output	Part number
sleeve nut fitting	0.05	55V05
	0.1	55V10
	0.15	55V15
	0.2	55V20
	0.25	55V25
	0.4	55V40
	0.8	55V80

distributor block:

Part Number	Inlet Thread	Out Thread	Out Number
DB988	G1/4	1/2-24UNS	1-6
DB989	G1/4	1/2-24UNS	7-14

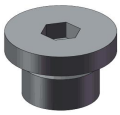
Manifold Meter Port Plug with O-ring :

Part Number	Thread
3GA08	1/2-24UNS

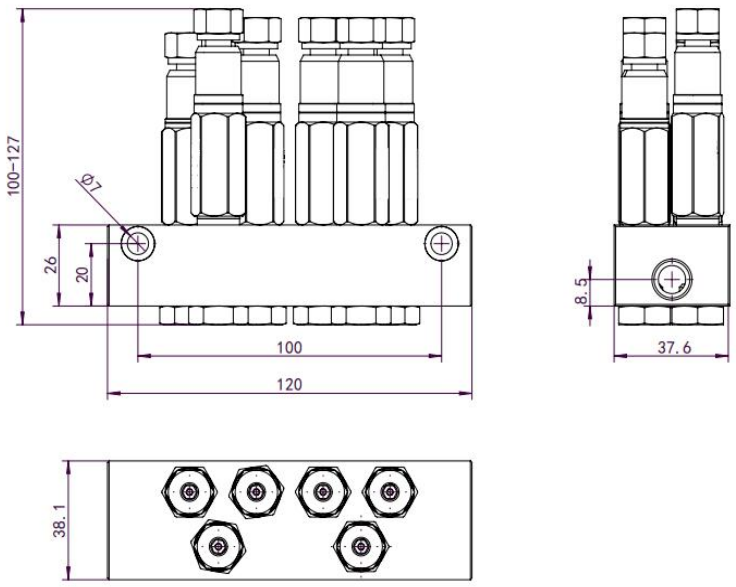


Manifold Inlet Plugs with O-ring:

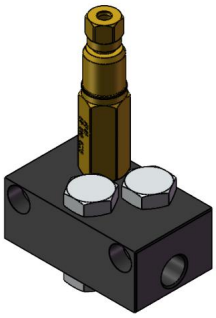
Part Number	Thread
3G752	1/2-24UNS



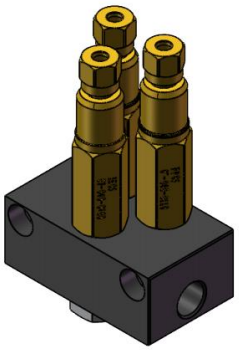
6 Point Manifold Dimensions



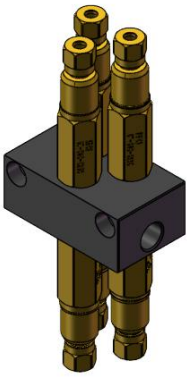
Typical examples:



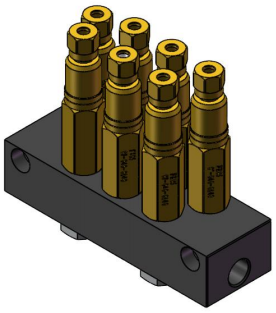
One Lubrication point
Contain:
55V 1PCS
DB988 1PCS
3GA08 5PCS



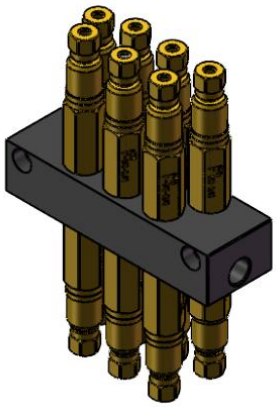
Three Lubrication point
Contain:
55V 3PCS
DB988 1PCS
3GA08 3PCS



SIX Lubrication point
Contain:
55V 6PCS
DB988 1PCS



Seven Lubrication point
Contain:
55V 7PCS
DB989 1PCS



Fourteen Lubrication point
Contain:
55V 14PCS
DB989 1PCS

Series VL-32 metering valves

VL-32 injector has been designed to deliver lubricant to friction points through the feeding line pressure.

These injectors are supplied with visual in-built level indicators to monitoring the operation.

VL-32 injector is available in different models: from one to four outlets. Every injector mounted on a manifold can be easily replaced or inspected without disassembling the unit or operating on fittings and tubings.

These units can be installed in any position and can be used with other types of injectors, if necessary.

Features and benefits

- Shipped with manifolds from 1 to 4 ports to match number of lube points
- Output is externally adjustable
- Indicator stem permits visual check of operation
- Can be removed easily for inspection or replacement

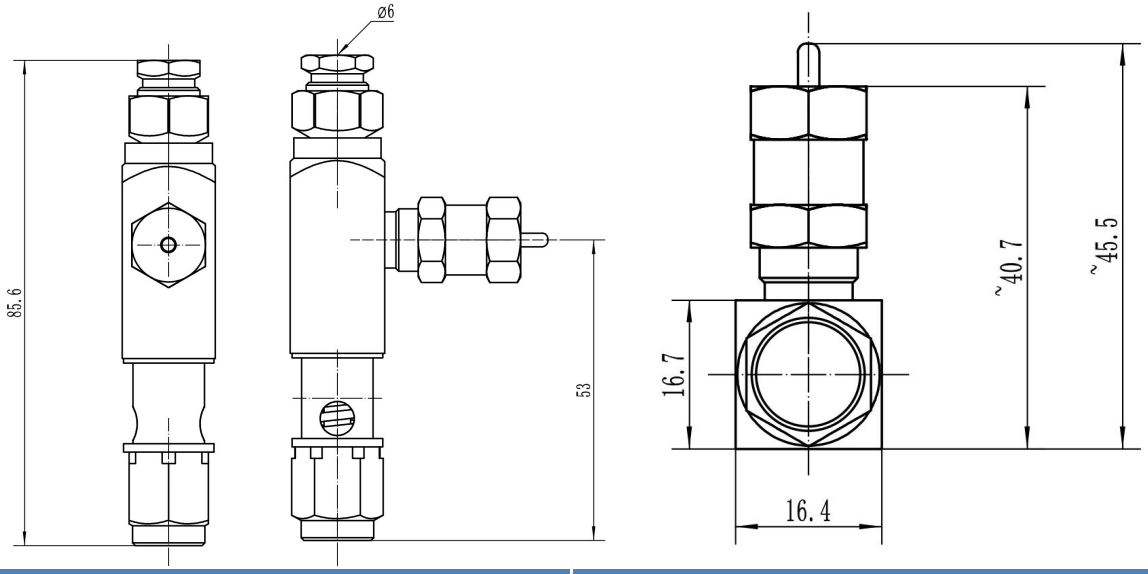
Applications

- Industrial automation
- Food and beverage
- Mobile on-road
- Pulp and paper
- Heavy industry
- Machine tools
- Construction
- Wind energy
- Oil and gas
- Forestry
- Marine

Technical information:

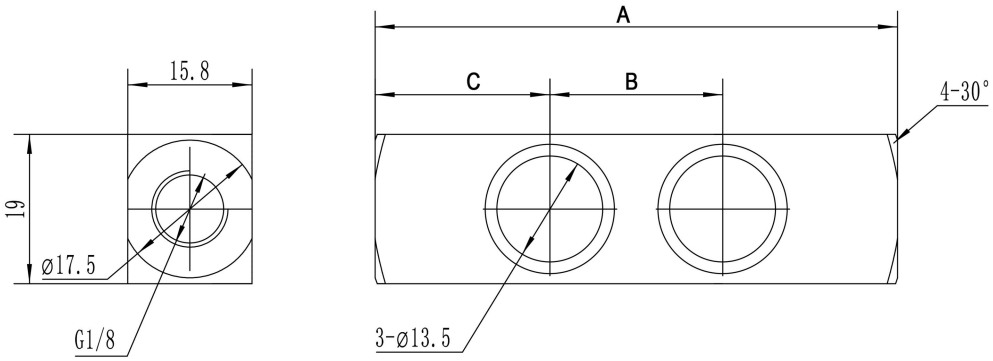
TECHNICAL CHARACTERISTICS	
Outlets	1 to 4
Metering quantity	0,016 to 0,131 ml
Lubricant	grease NLGI 0, 1, 2
Operating temperature	max. +93 °C; +200 °F
Operating pressure	8.3 to 24 Mpa
Material	carbon steel
Connection main line	1/8 NPT(F)
Connection outlet	1/8 in O.D. tube

Ordering information of single VL-32 metering valve



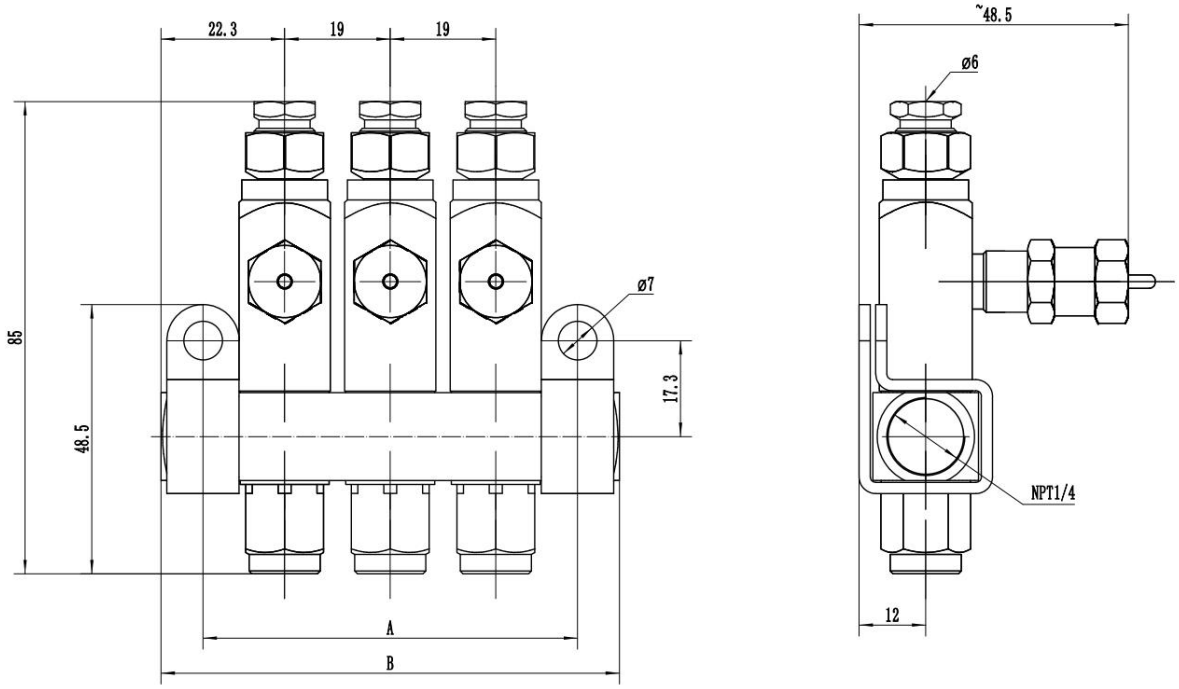
Part number	Connection outlet
VL3200	6mm O.D. tube

distributor block:



Part number	Output Number	A	B	C
DB3201	1	44.5	-	22.25
DB3202	2	63.5	19	22.25
DB3203	3	82.5	19	22.25
DB3204	4	101.5	19	22.25

Dimensions:



Part number	Output Number	A	B	Outlet	Inlet
40D164	1	29.4	44.5	6mm O.D. tube	1/4 NPT（F）
40D264	2	48.4	63.5		
40D364	3	67.4	82.5		
40D464	4	86.4	101.5		

Series VL-1、VL-1X Series Metering valves

For use in single-line lubrication systems

The VL-1、VL-1X series metering devices are for single-line, high-pressure centralized lubrication systems dispensing lubricants compatible with flouroelastomer packings and viscosity up to NLGI 2. Output is externally adjustable. An indicator pin permits visual check of metering device operation. Individual metering devices can be removed easily for inspection or replacement.

Features

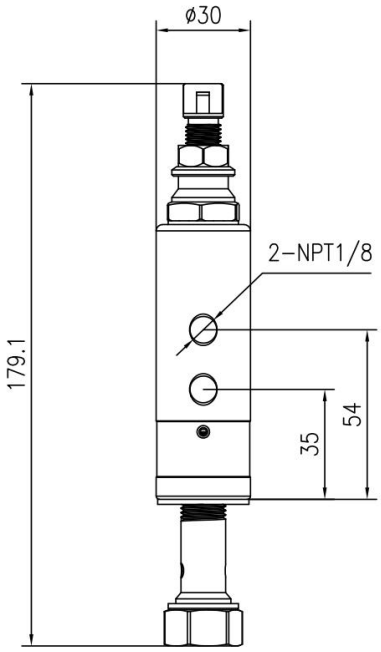
- Shipped with manifolds from 1 to 6 ports (lubrication points)
- Output is externally adjustable
- Each indicator pin permits visual check of injector operation
- Individual metering devices can be removed easily for inspection or replacement
- Includes fitting for feed lines via alternate outlet port

Technical information:

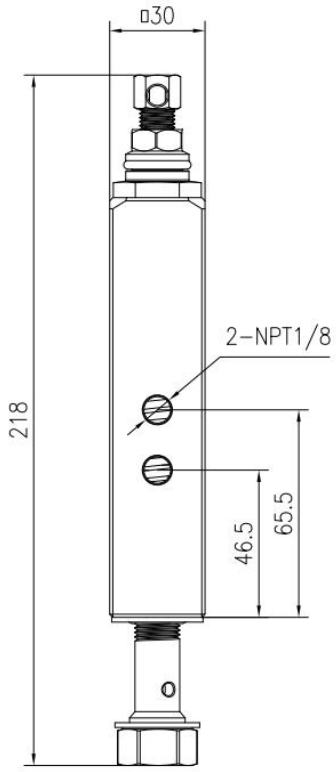
TECHNICAL CHARACTERISTICS		
Product name	**VL-1**	**VL-1X**
Outlets	1 to 6	1 to 6
Metering quantity	0.131 to 1.31 ml	0.25 to 1.31 ml
Lubricant	grease NLGI 0, 1, 2	grease NLGI 0, 1, 2
Operating temperature	-26 to 176℃	Max. 82℃
Operating pressure	128 to 241 bar	128 to 414 bar
Relief pressure	41 bar	69 bar
Material	carbon steel	carbon steel
Connection main line	3/8 NPT (F)	3/8 NPT (F)
Connection outlet	1/8 NPT (F)	1/8 NPT (F)

Ordering information of single metering valve

VL-1

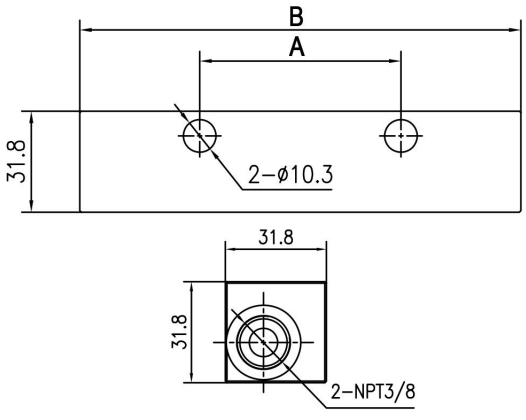


VL-1X



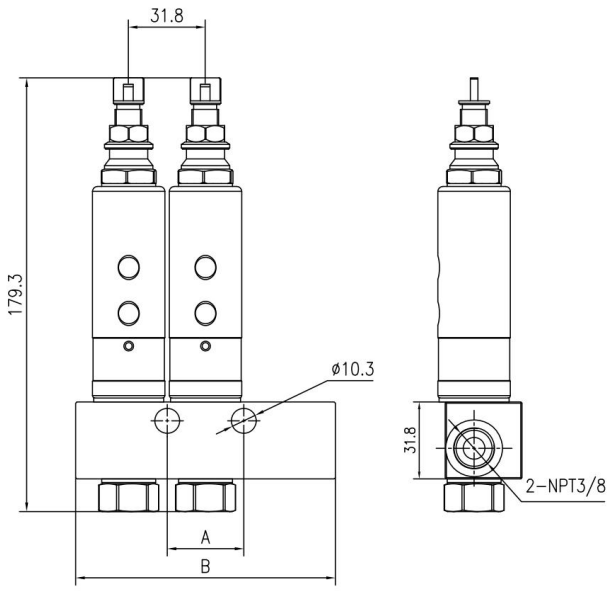
Part number	Connection outlet	Part number	Connection outlet
VL1000	1/8 NPT (F)	VL1X00	1/8 NPT (F)

distributor block:



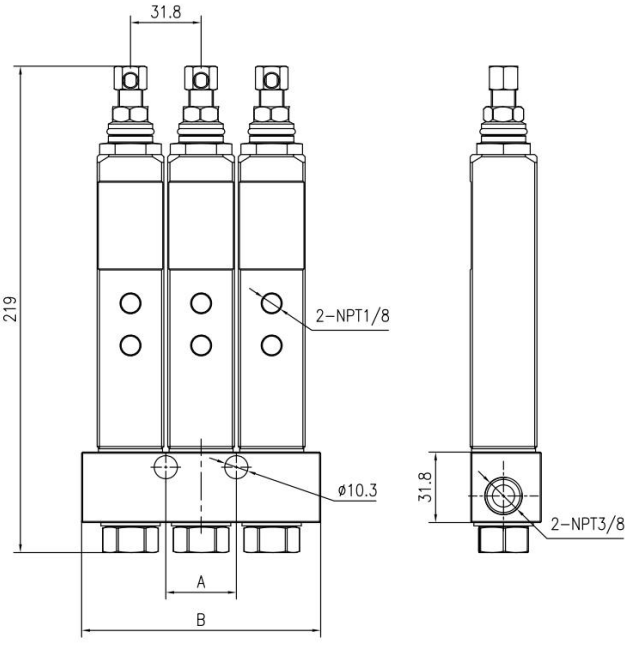
Part number	Output Number	A/mm	B/mm
DBVL01	1	-	63
DBVL02	2	-	76.4
DBVL03	3	31.7	107.5
DBVL04	4	63.4	139
DBVL05	5	95.1	170.5
DBVL06	6	126.8	202.7

Ordering information of complete set for VL-1 :



Part number	Output Number	A/mm	B/mm	Inlet	Outlet
VL110602	1	-	63	3/8 NPT (F)	1/8 NPT (F)
VL120602	2	-	76.4		
VL130602	3	31.7	107.5		
VL140602	4	63.4	139		
VL150602	5	95.1	170.5		
VL160602	6	126.8	202.7		

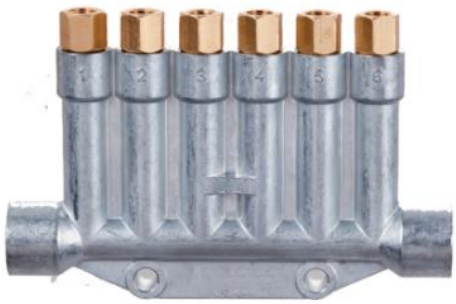
Ordering information of complete set for VL-1X :



Part number	Output Number	A/mm	B/mm	Inlet	Outlet
VL1X01	1	-	63	3/8 NPT (F)	1/8 NPT (F)
VL1X02	2	-	76.4		
VL1X03	3	31.7	107.5		
VL1X04	4	63.4	139		
VL1X05	5	95.1	170.5		
VL1X06	6	126.8	202.7		

VMN Metering Valves

Accurate Dosing Elements For Single-Line Lubrication System



Developed for use with single-line, centralized lubrication systems for fluid grease, series VMN relubrication metering devices are offered with two, four or six ports. These metering devices were designed for installation directly on the vehicle or construction machine requiring lubrication.

Action pressure：≧ 1.5MPa

Back pressure：≦ 0.5MPa

Characteristics

• Choose metering device with two, four or six points to match number of lubrication points

• Designed for installation directly on the vehicle/machine requiring lubrication

• Select metering nipples and push-in or screw-in type fittings for feed line or main line connections

• Easy metering adjustment by replacing metering nipples

• Surface for optimized corrosion protection

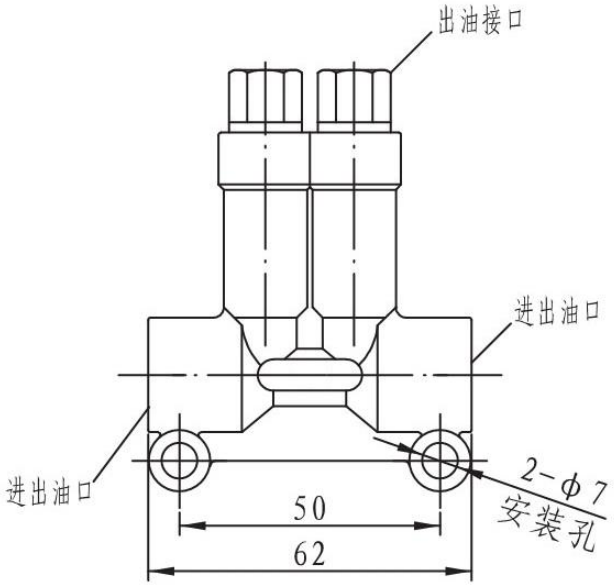
Applications

• Commercial vehicles

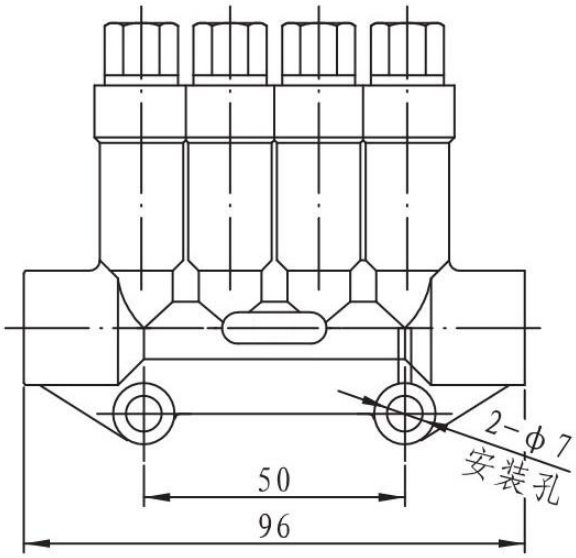
• Construction machinery

Technical characteristics	
Outlets	2、4、6
Flow rate	0.1ml、0.2ml、0.4ml
Lubricant	fluid grease of NLGI 000, 00
Operating temperature	–25 to +80 °C
Operating pressure	2 to 8 Mpa
Material	zinc die-cast, brass, steel, flat washer (copper), NBR
Connection main line	M10*1
Connection outlet	4mm in O.D. tube

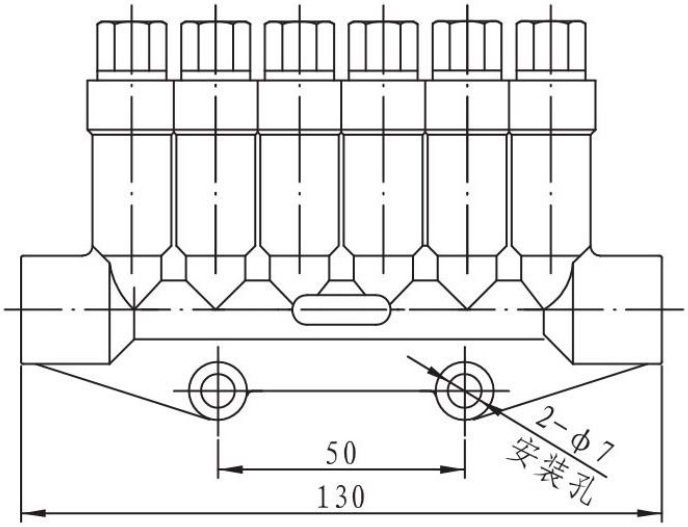
Dimensions:

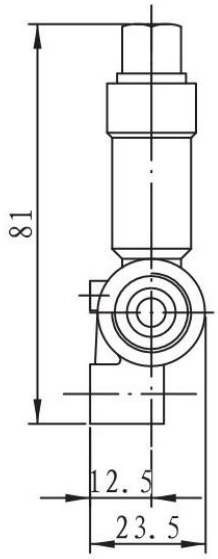


VMN-2



VMN-4

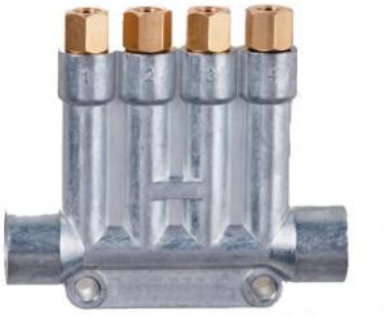




VMN-6

Ordering information:

VMN- Q4 4T 10/10/20/10



Outlet Connetor Q4= 4mm Push-in Fitting S4= 4mm Nut and ferrule	Q4
Number of metering points 2T = 2 outlets 4T = 4 outlets 6T = 6 outlets	4T
Flow rate 10 = 0.1ml 20 = 0.2ml 40 = 0.4ml	10/10/20/10

Straight fitting with check valve Push in 25Mpa

Part number	OD	Thread	Material
FP1104M10	Ø4	M10*1	Zinc plated
FP1106M10	Ø6	M10*1	Zinc plated

Straight fitting Push in 25Mpa

Part number	OD	Thread	Material
HPQ1106M10	Ø6	M10*1	Zinc plated

Straight fitting assembly

Part number	OD	Thread	Material
5DM0602	Ø6	R1/8	Zinc plated
5DM0610	Ø6	M10*1	Zinc plated
5DM0608	Ø6	M8*1	Zinc plated
5DM0606	Ø6	M6*1	Zinc plated
5DM0402	Ø4	R1/8	Zinc plated
5DM0410	Ø4	M10*1	Zinc plated
5DM0408	Ø4	M8*1	Zinc plated
5DM0406	Ø4	M6*1	Zinc plated

Angle fitting assembly

Part number	OD	Thread	Material
5HM0602	Ø6	R1/8	Zinc plated
5HM0610	Ø6	M10*1	Zinc plated
5HM0608	Ø6	M8*1	Zinc plated
5HM0606	Ø6	M6*1	Zinc plated
5HM0402	Ø4	R1/8	Zinc plated
5HM0410	Ø4	M10*1	Zinc plated
5HM0408	Ø4	M8*1	Zinc plated
5HM0406	Ø4	M6*1	Zinc plated

Straight fitting assembly

Part number	OD	Thread	Material
5PM0610	Ø6	NPT1/8	Zn-Ni plated

Angle fitting assembly

Part number	OD	Thread	Material
5NM0610	Ø6	NPT1/8	Zn-Ni plated

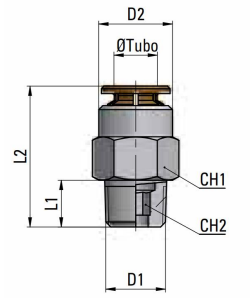
Right-angle Fitting assembly，Rotatable

Part number	OD	T1	Description
5B0410	Ø4	M10*1	inlet and outlet connector
5B0610	Ø6	M10*1	
5B0408	Ø4	M8*1.0	End connector
5B0406	Ø4	M6*1.0	

BANJO Without grease Nipples

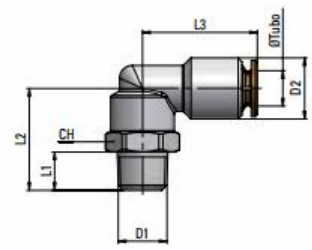
Part number	OD	Thread	Material
BN0610	Ø6	M10*1	Zinc plated

Taper Straight,Male 10Mpa



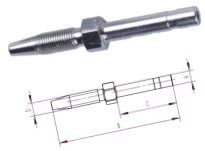
Part number	OD	D1	D2	L1	L2
MP110418	Ø4	R1/8	9	7.5	18.5
MP1104M6	Ø4	M6*1.0	9	8	23
MP1104M8	Ø4	M8*1.0	9	8	20
MP1104M10	Ø4	M10*1.0	9	8	20
MP110618	Ø6	R1/8	12	7.5	21.5
MP1106M6	Ø6	M6*1.0	12	8	25.5
MP1106M8	Ø6	M8*1.0	12	8	25.5
MP1106M10	Ø6	M10*1.0	12	8	22

Taper Elbow Fitting,Male,Rotatable 10Mpa



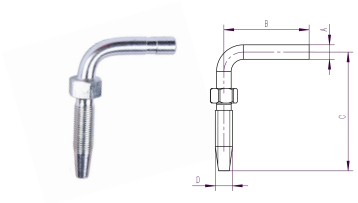
Part number	OD	D1	D2	L1	L2
MP150418	Ø4	R1/8	9	7.5	20
MP1504M6	Ø4	M6*1.0	9	8	20.5
MP1504M8	Ø4	M8*1.0	9	8	20.5
MP1504M10	Ø4	M10*1.0	9	8	20.5
MP150618	Ø6	R1/8	12	7.5	20
MP1506M6	Ø6	M6*1.0	12	8	21.5
MP1506M8	Ø6	M8*1.0	12	8	21.5
MP1506M10	Ø6	M10*1.0	12	8	21.5

Hose coupling straight



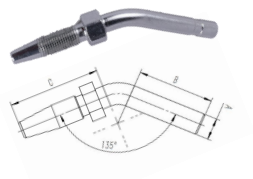
Part number	A	B	C	D	Material
ZZ06	Ø6	60	30	M7*1	Zinc plated
ZZ06-1(short)	Ø6	54.5	21.5	M7*1	
ZZ0610	Ø6	63	30	M10*1	
ZZ08	Ø8	63	30	M10*1	

Hose coupling bent



Part number	A	B	C	D	Material
WZ06	Ø6	32	45	M7*1	Zinc plated
WZ0610	Ø6	32	45	M10*1	
WZ06-1(short)	Ø6	20	45	M7*1	
WZ08	Ø8	35	50	M10*1	

135°Hose coupling bent



Part number	Pipe diameter	B	C	Material
WZ13506	Ø6	30	36	Zinc plated

Threaded sleeve

Part number	Pipe diameter	Thread	Material
WO06	Ø6	M7*1	Zinc plated
WO08	Ø8	M10*1	Zinc plated

Ferrule

Part number	Thread	TUBE O.D.	MPa
NLL-08	M8*1	Ø4	Super light series LL
NLL-10	M10*1	Ø6	
NL-12	M12*1.5	Ø6	Light series L
NL-14	M14*1.5	Ø8	
NL-16	M16*1.5	Ø10	
NL-18	M18*1.5	Ø12	

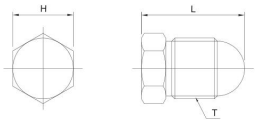
Nuts

Part number	TUBE O.D.	MPa
RLL-04	Ø4	Super light series LL
RLL-06	Ø6	
RL-06	Ø6	Light series L
RL-08	Ø8	
RL-10	Ø10	
RL-12	Ø12	

Straight Fitting assembly

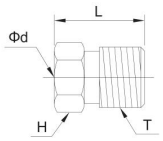
Part number	OD	Thread	Description
3D0410T	Ø4	M10*1	inlet and outlet connector
3D0610T	Ø6	M10*1	
3D0408T	Ø4	M8*1.0	End connector
3D0406T	Ø4	M6*1.0	

Sleeve pipe plug



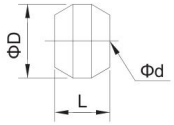
Part number	L	T	H
3G04	16	M8*1.0	8
3G06	17	M10*1.0	10

Sleeve pipe cap



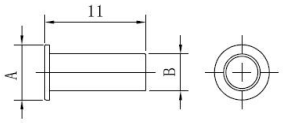
Part number	OD	Ød	ØD	L
3A04	4	4.1	12	4.5
3A06	6	6.1	12.5	5
3A08	8	8.1	14	7
3A10	10	10.1	15	8

Sleeve pipe



Part number	OD	Ød	ØD	L
3B04	4	4.1	6	4.5
3B06	6	6.1	8	5
3B08	8	8.1	11	7
3B10	10	10.1	13.5	8

Inner screw of pipe



Part number	A	B
BF04	4	2
BF0425	4	2.5
BF06	6	4
BF0630	6	3

High-pressure flexible pipe

Part number	Outer diameter	Inside diameter
T-HP03	Ø6	Ø3
T-HP04	Ø8.6	Ø4
T-HP06	Ø11	Ø6.3

Nylon tubing (BP in black; WP in white)

Part number	Outer diameter	Inside diameter
T-BP06	Ø6	Ø3
T-BP04	Ø4	Ø2.5
T-WP06	Ø6	Ø4
T-WP04	Ø4	Ø2

Steel tubing

Part number	Outer diameter	Inside diameter
T-CP04	Ø4	Ø2
T-CP06	Ø6	Ø4
T-CP08	Ø8	Ø6
T-CP10	Ø10	Ø8

Spring coil

Part number	Ød	Suitable pipe outer diameter
THT04	4.5	4
THT06	6.5	6
THT08	11	9.3

Hose plastic jacket

Part number	Ød	Suitable pipe outer diameter
THL08	8	8.6
THL10	10	11
THL12-1	11	12

Cable tie

Part number	Width	Length	Marterial
ZDCH5200	5	200	Nylon
ZDCH5300	5	300	Nylon
ZDCH5500	5	400	Nylon

R Pipe clamp

Part number	Ød	Mounting hole
RC06	6	6.4mm
RC08	8	6.4mm
RC10	10	6.4mm
RC12	12	6.4mm
RC14	14	6.4mm
RC16	16	6.4mm
RC18	18	6.4mm
RC20	20	6.4mm
RC22	22	6.4mm
RC25	25	6.4mm
RC28	28	6.4mm
RC30	30	6.4mm

CISO

LUBRICATION SYSYTEM

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