PIPING PLANNING

Appropriate piping design realizes full function of centralized lubricating system.

Piping standard

Name	System pressure MAX MPa	*Pipe material	Pipe diameter	Remarks
Main line	17	Steel pipe or copper tube	φ8×φ6	Line for connecting the pump and the 1st distributing valve
Branch line	17	Steel pipe or copper tube	φ6×φ4	Line for connecting the 1st distributing valve and the 2nd distributing valve
Discharging line	4	Polyethylene tube or copper tube	φ6×φ4 φ4×φ2.6	Line for connecting the distributing valve and bearing (lubricating surface)

*See the Lubyace system standard pipe material view on page 17 for pipe material, joint, etc.

Determining the length of piping

Allowable piping length is determined by pipe diameter, grease consistency and pressure loss (piping resistance) under environmental condition such as environmental temperature. Calculate the allowable length of piping from the table below, and determine the installation position of pump and distributing valve, so that they are within the corresponding range.

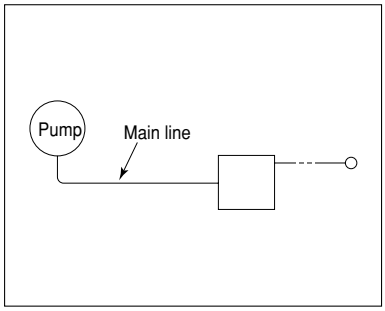
● Determining procedure of equipment installation position

(1) Pump (Determining the length of main line and the length of main line + branch line)

The 1-stage distribution system and the 2-stage distributing valve system are different in allowable length because they employ only main line and main line + branch line respectively.

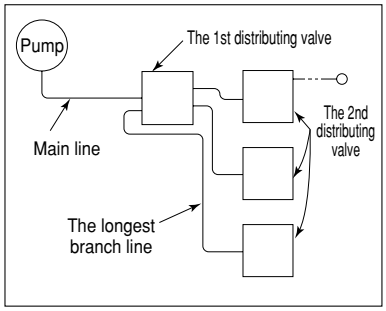
● 1-stage distributing valve system

Determine the position of pump at the length of main line is within the allowable range in the table 1.

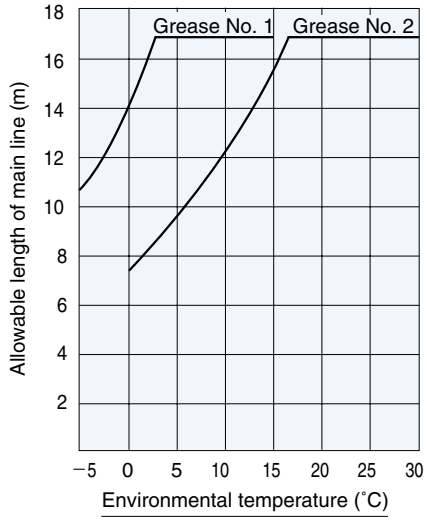


● 2-stage distributing valve system

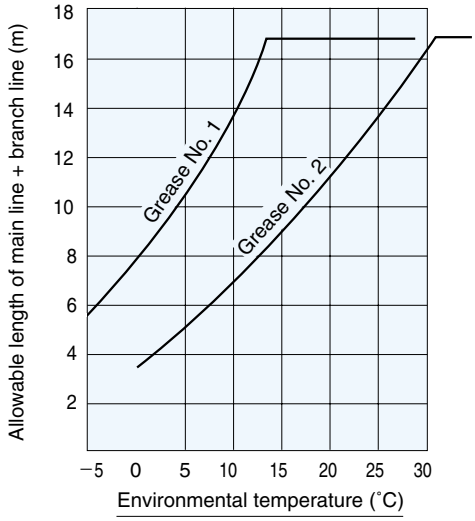
Determine the position of the pump and the 1st distributing valve at the total length of main line and the longest branch line is within the allowable length in the table 2. (Table 2 shows the allowable length when main line and branch line lengths are proportional by 1:1.)



● 1-stage distributing valve system (table 1)



● 2-stage distributing valve system (table 2)

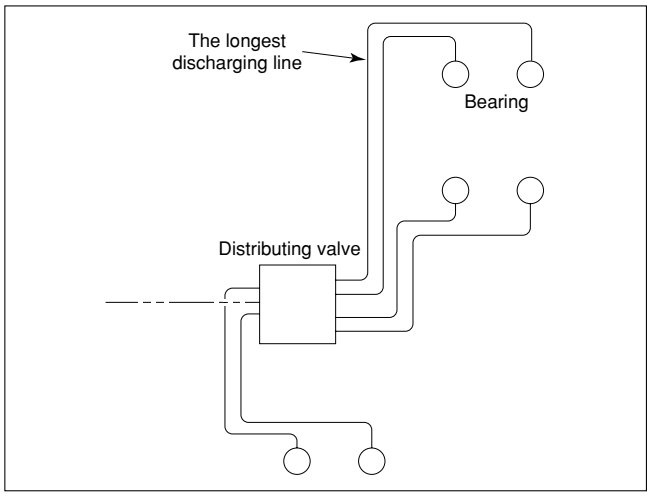


- When grease No. 0 is used, piping length is allowed 60% longer than grease No. 1 piping.
- When oil is used (machine equivalent oil), main line (branch line) diameter 6×diameter 4 is allowed up to the maximum length 21m, and dischrging line diameter 4×diameter 2.6 is allowed up to the maximum length 4m.

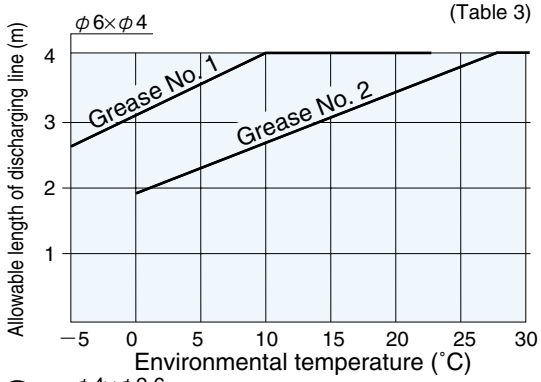
PIPING PLANNING

(2) Distributing valve (determining the length of discharging line)

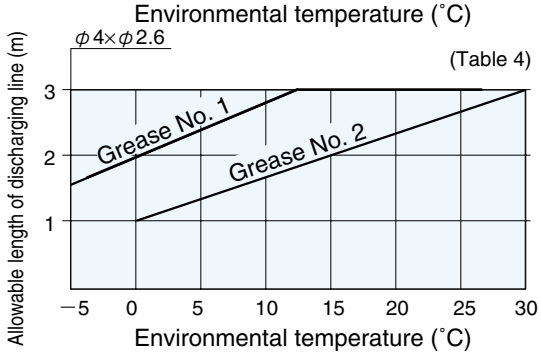
Determine the position of distributing valve at the longest discharging line is within the allowable length in the tables 3 and 4.



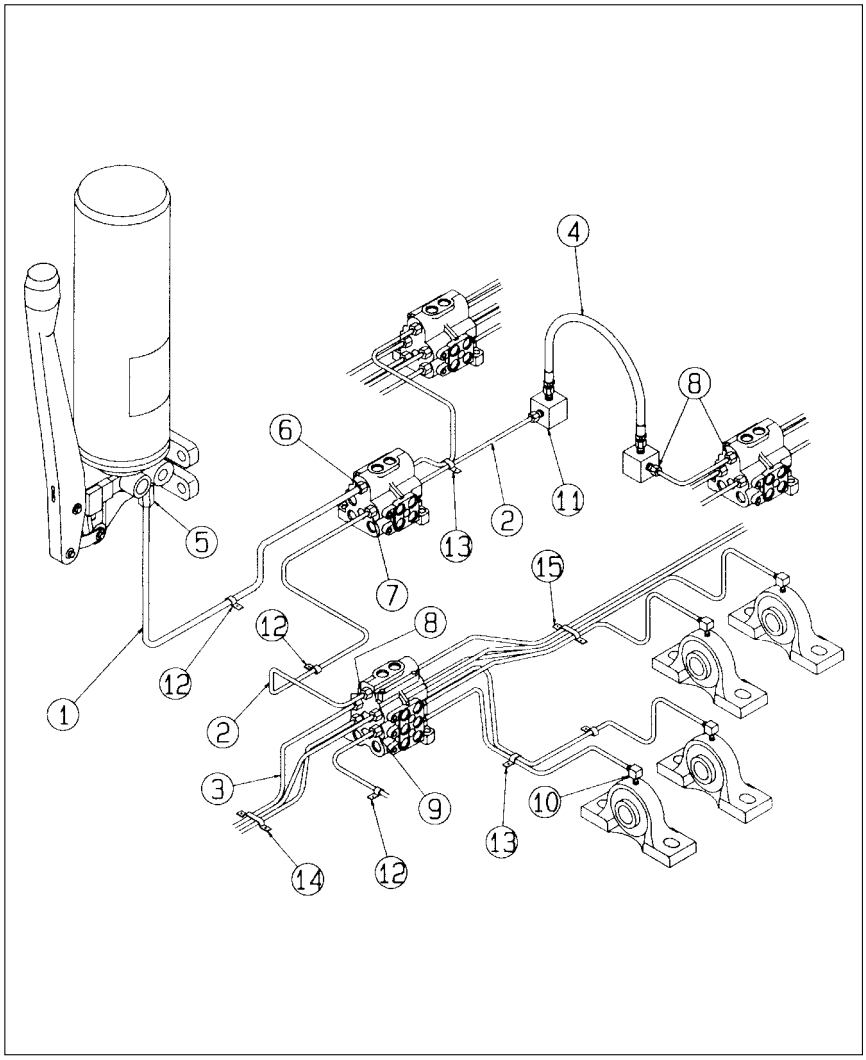
(Table 3)



(Table 4)



■Lubyace system standard piping material view



Part number	Name		Dimension/ Material	Type
1	Main line		Diameter 8 Copper tube	
2	Branch line		Diameter 6 Copper tube	
3	Discharging line		φ6 Polyethylene tube	60PLYT
			φ4 tube	40PLYT
4	Main line or branch line for moving part		1/4 high pressure rubber hose	
5	Fitting	For pump exit	φ8×3/8	T203-B3
6		For the 1st distributing valve inlet	φ8×1/4	T203-B2
7		For the 1st distributing valve outlet	φ6×1/8	T203-A1
8		For the 2nd distributing valve inlet	φ6×1/4	T203-A2
9		For the 2nd distributing valve outlet	φ6×1/8	P61A
			φ4×1/8	P41A
10		For connecting bearing	φ6×1/8	P61A,P61EA
			φ4×1/8	P41A,P41EA
11	Anchorage block			T1927-2
12	Band	For one line	For diameter 8×one line	T606-B1
			For diameter 6×one line	T606-A1
			For diameter 4×one line	T21-N1
13		For two line	For diameter 6×two lines	T606-A2
			For diameter 4×two lines	T21-N2
14		For three line	For diameter 6×three lines, holding both sides	T606-A3
			For diameter 4×three lines, holding both sides	T21-N3
15		For four line	For diameter 6×four lines	T606-A4
			For diameter 4×four lines	T21-N4

Note) Recommended tightening torque of piping connection port of the equipment is as follows:

Screw diameter	Tightening torque N.cm.
Rc3/8	3000 to 3500
Rc1/4	1700 to 2000
Rc1/8	800 to 1000