

## LSE-01 Drawing Figures

Thank you very much for down load this file. I don't know how to draw English figures. Please feel free to mail me when you have any question.

Koichi Hirata  
3 March, 1996

---

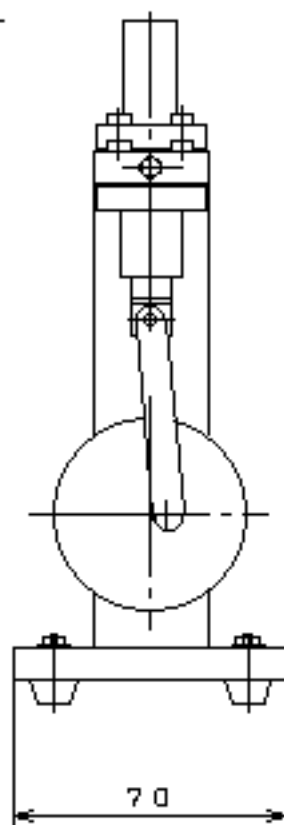
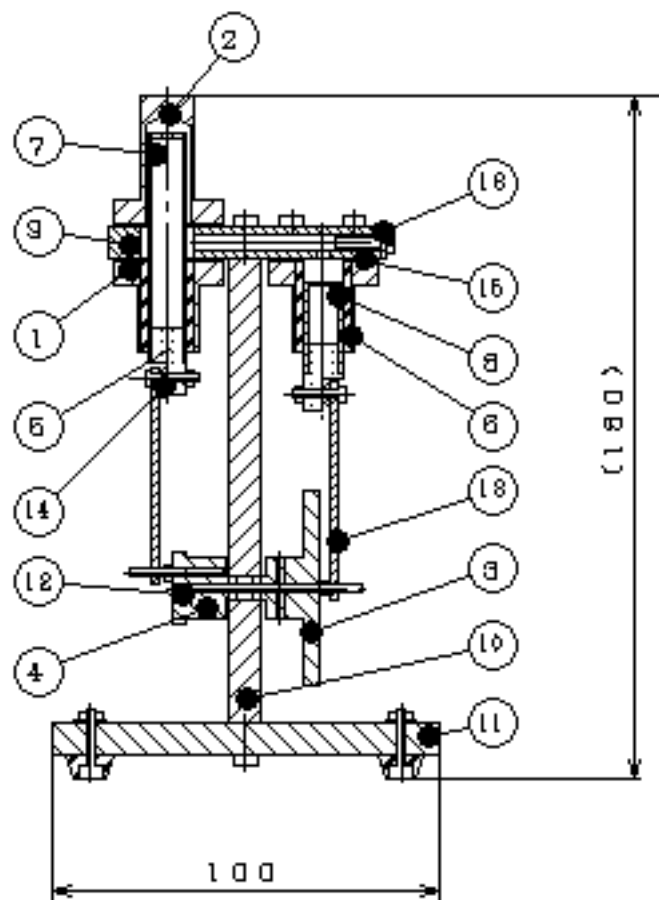
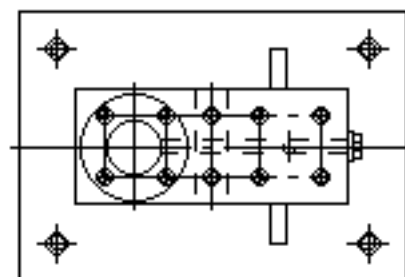
### File list:

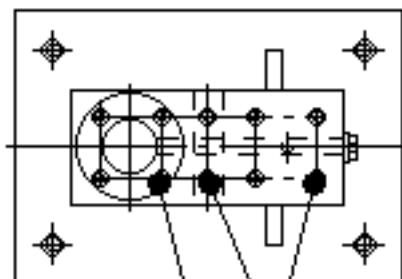
README.TXT: This file  
L01\_K1.GIF - L01\_K2.GOF: Assembly Drawing of LSE-01  
L01\_K3.GIF: Suggestions to Assemble LSE-01  
L01\_K3.TXT: Suggestions to Assemble LSE-01  
LISTE.GIF: Parts list of LSE-01  
PARTS01E.GIF - PARTS16E.GIF: Parts Drawing of LSE-01

---

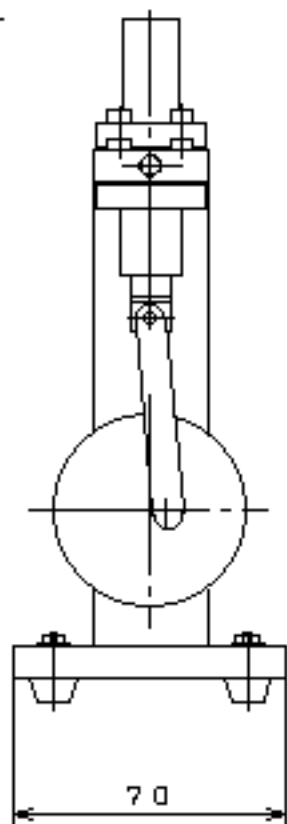
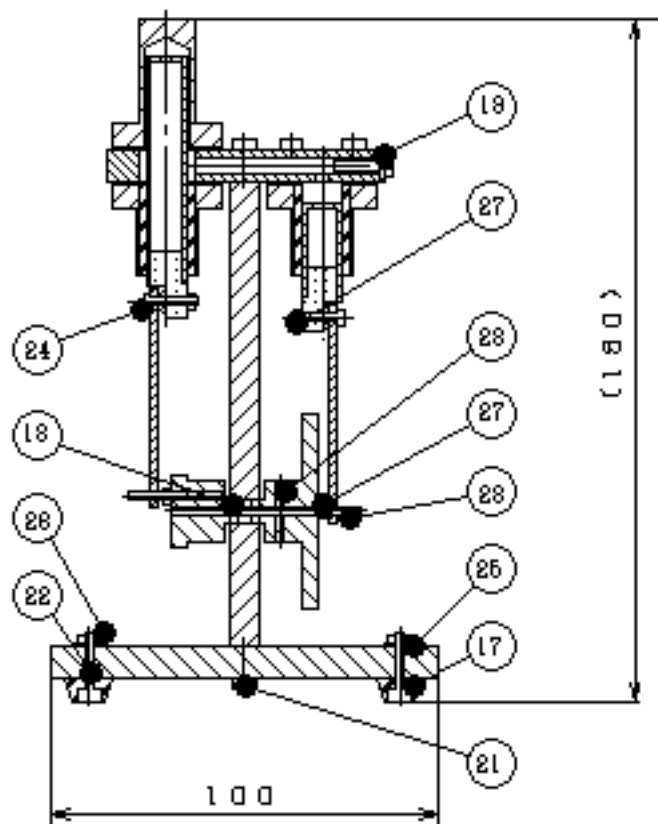
Koichi Hirata

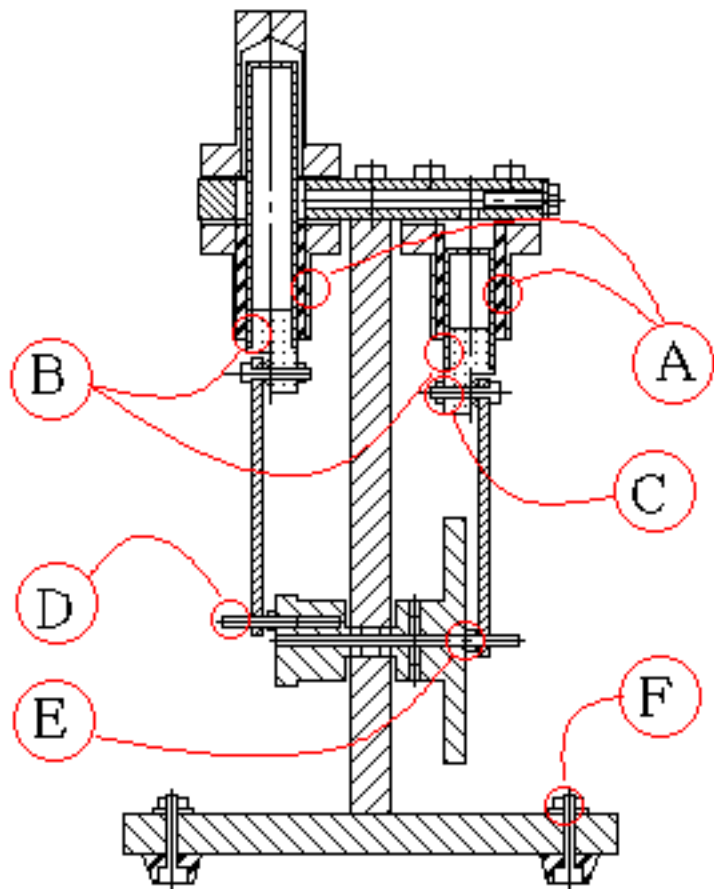
Address : 6-103 Musashino-Jutaku, 2-36-1 Gakuen, Musashi-murayama-shi,  
Tokyo 208, Japan  
Phone & Fax•F +81-425-67-0086  
e-mail•F [khirata@gem.bekkoame.or.jp](mailto:khirata@gem.bekkoame.or.jp)  
URL: <http://www.bekkoame.pr.jp/~khirata/indexe.htm>





20 21





## Suggestions:

A: Seal and fix between a cylinder cover (No.1) and a cylinder (No.6) with a silicone glue.

B: Fix between a piston holder (No.5) and a piston (No.7,8) with a quick drying glue.

C: Fix a connecting rod (No.13) to a piston holder (No.5) with a bolt (No.24) and a nut (No.26) to move light.

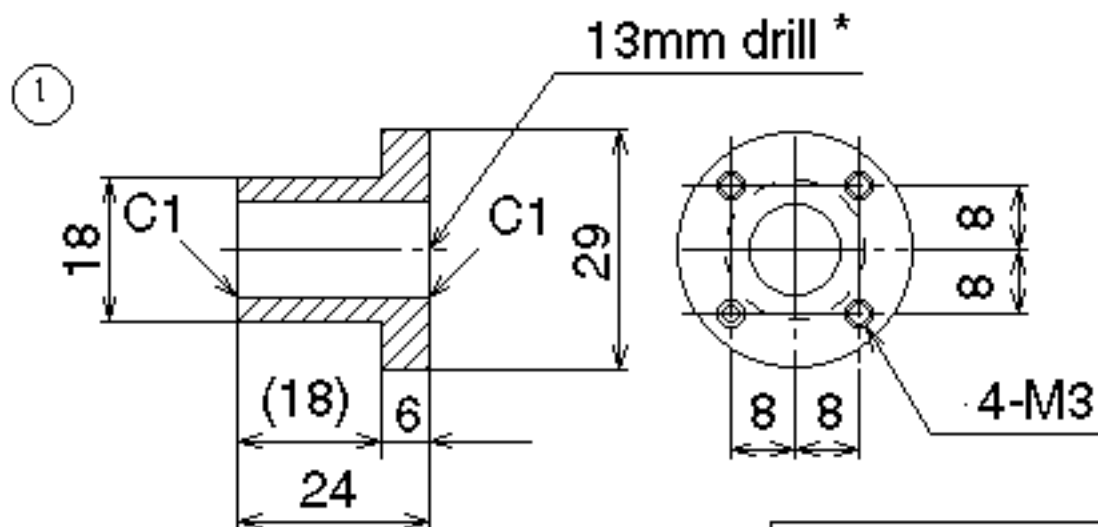
D: Cut a top of a bolt (No.23).

E: Fix the bolts (No.23) to a flywheel (No.3) and a crank disk (No.4) using double nut type.

F: Fix bolts (No.22) to a base (No.11) with double nut type.

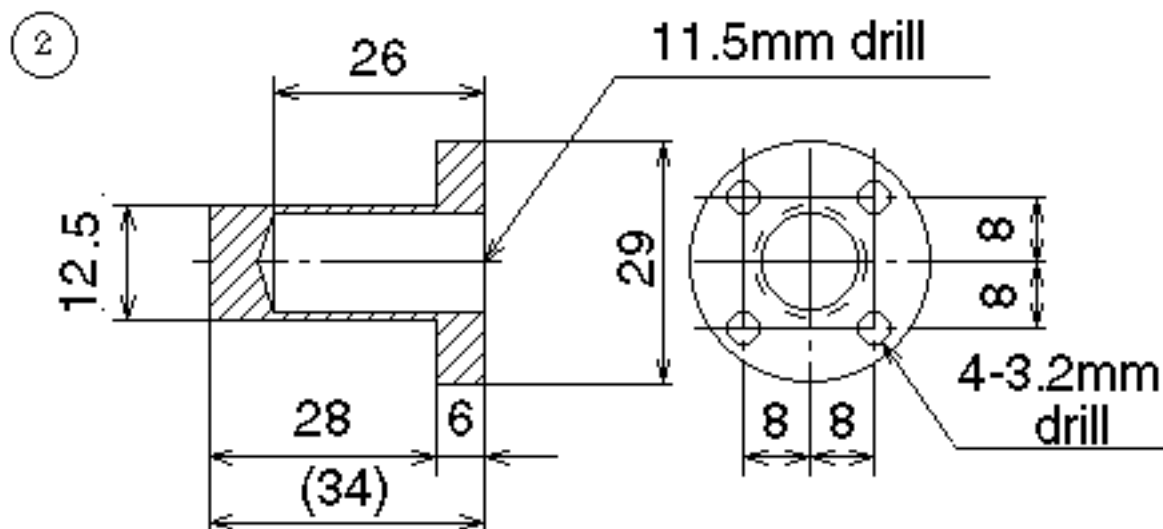
Number	Name	Material	the number of parts	Notes
1	Cylinder cover	aluminum	2	
2	Heater	stainless	1	
3	Flywheel	brass	1	
4	Crank disk	brass	1	
5	Piston holder	aluminum	2	
6	Cylinder	glass	2	Medical syringe
7	Hot piston	glass	1	Medical syringe
8	Cold piston	glass	1	Medical syringe
9	Joint board	aluminum	1	
10	Frame	aluminum	1	
11	Base	aluminum	1	
12	Shaft	stainless	1	
13	Connecting rod	aluminum	2	
14	Bush	steel wire	2	
15	Gasket	silicone rubber	3	
16	Gasket	silicone rubber	1	
17	Leg	rubber	4	
18	Bearing	steel	2	MF63 (Outer 6mm, Inner 3mm)
19	Bolt	steel	1	M4 x 12mm
20	Bolt	steel	4	M3 x 20mm
21	Bolt	steel	8	M3 x 12mm
22	Bolt	steel	4	M3 x 15mm
23	Bolt	steel	2	M2 x 20mm
24	Bolt	steel	2	M2 x 10mm
25	Washer	steel	4	M3
26	Nut	steel	4	M3
27	Nut	steel	4	M2
28	Cap screw	steel	4	M3 x 5mm

Number	Name	Material	Number of parts	Notes
1	Cylinder cover	aluminum	2	



\* Note:  
Fit to diameter of  
medical syringes.

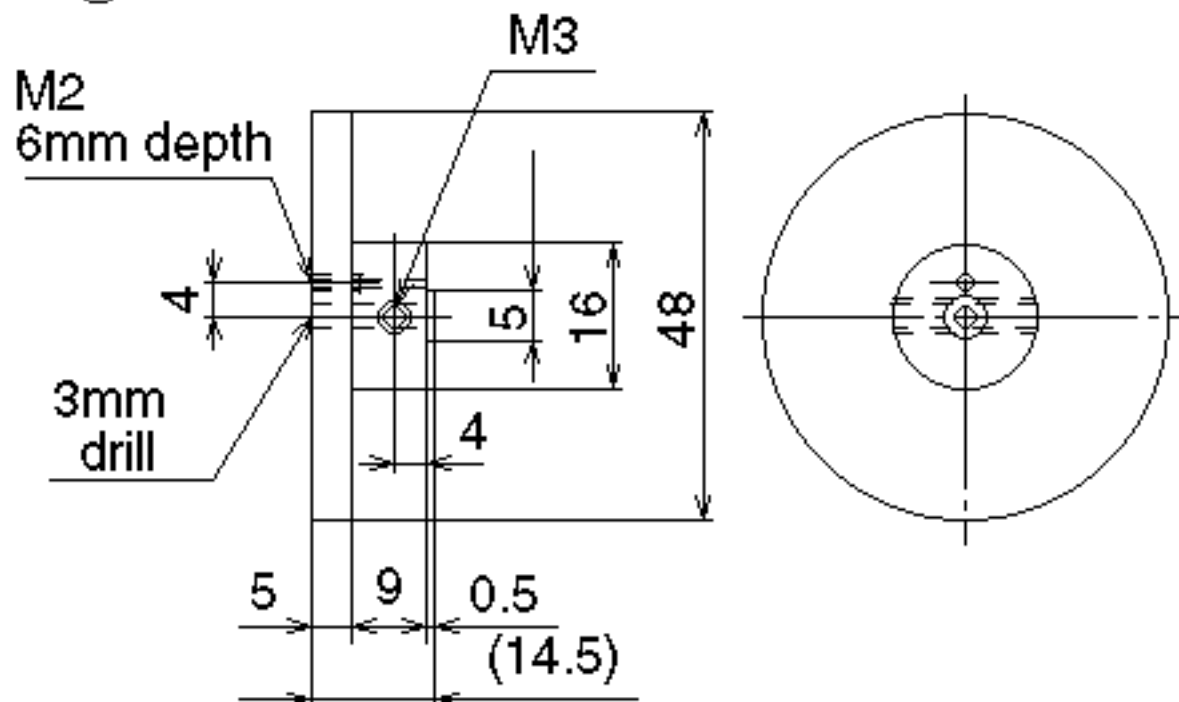
Number	Name	Material	Number of parts	Notes
2	Heater	stainless	1	





Number	Name	Material	Number of parts	Notes
3	Flywheel	brass	1	

3



4

Number	Name	Material	Number of parts	Notes
4	Crank disk	brass	1	

M2,  
6mm depth

M3

3mm  
drill

4

5

16

18

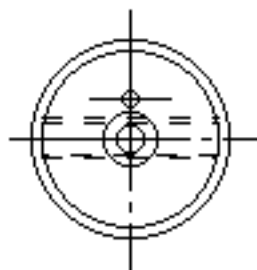
4

5

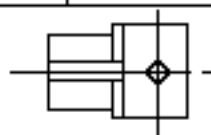
9

0.5

(14.5)

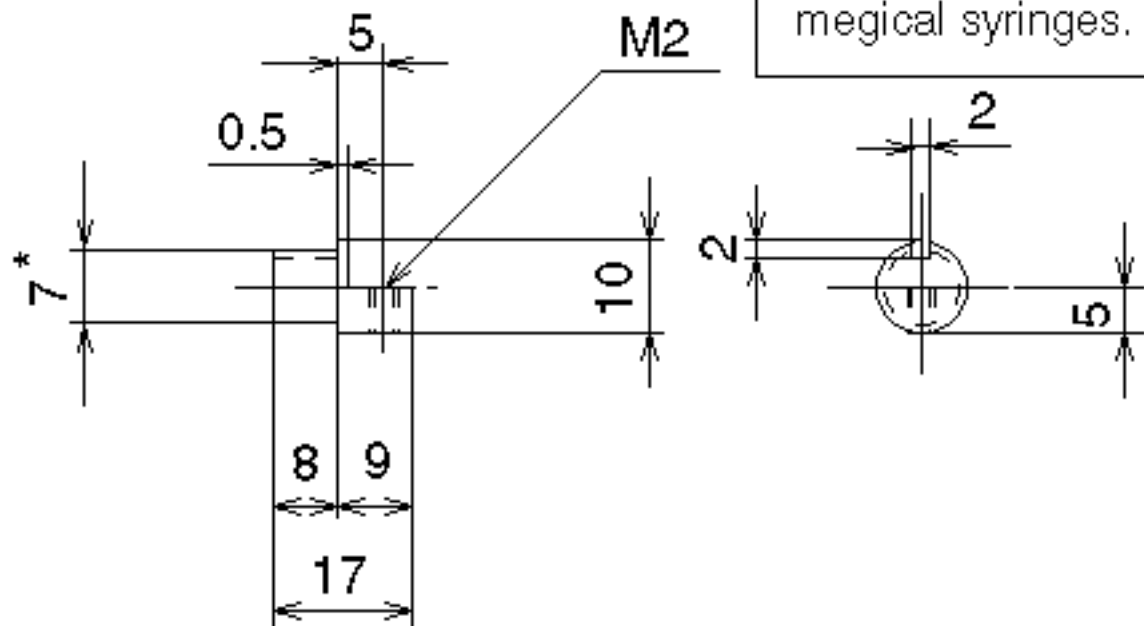


Number	Name	Material	Number of parts	Notes
5	Piston holder	aluminum	2	



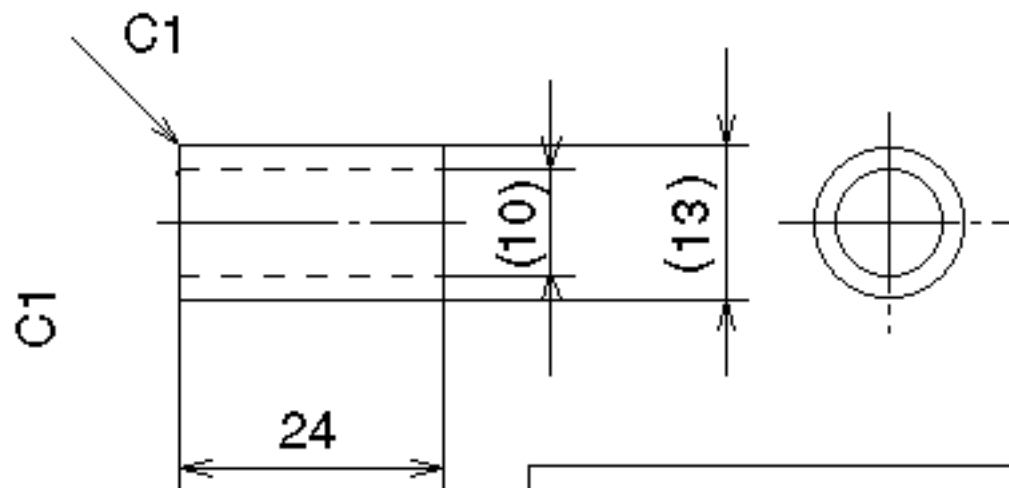
\* Note:

Fit to diameter of  
medical syringes.



6

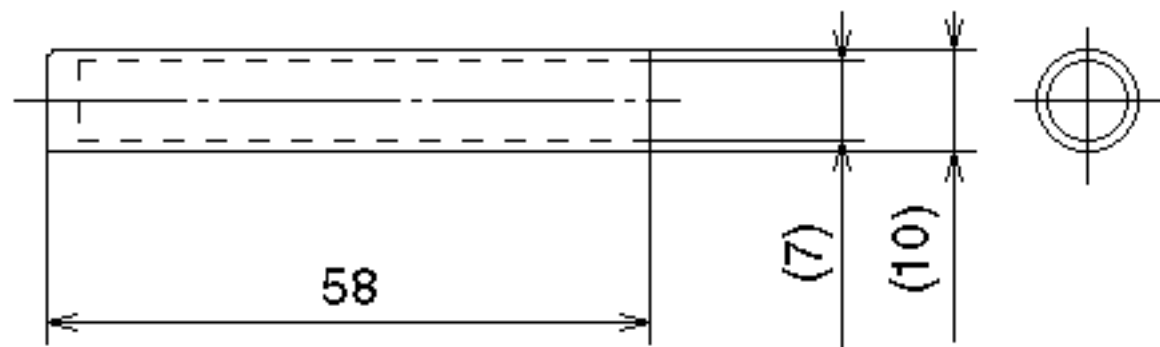
Number	Name	Material	Number of parts	Notes
6	Cylinder	glass	2	Medical syringe



Note:  
Use 3cc medical syringes.

Number	Name	Material	Number of parts	Notes
7	Hot piston	glass	1	Medical syringe

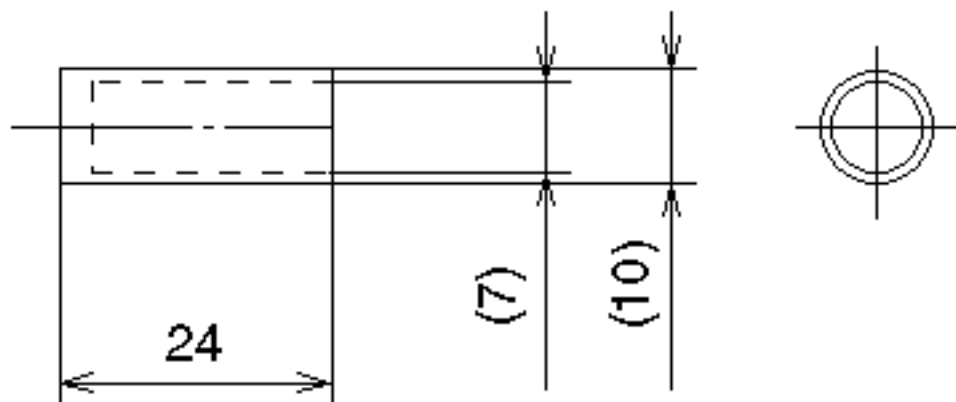
7



Note:  
Use 3cc medical syringes.

Number	Name	Material	Number of parts	Notes
8	Cold piston	glass	1	Medical syringe

8



Note:  
Use 3cc medical syringes.

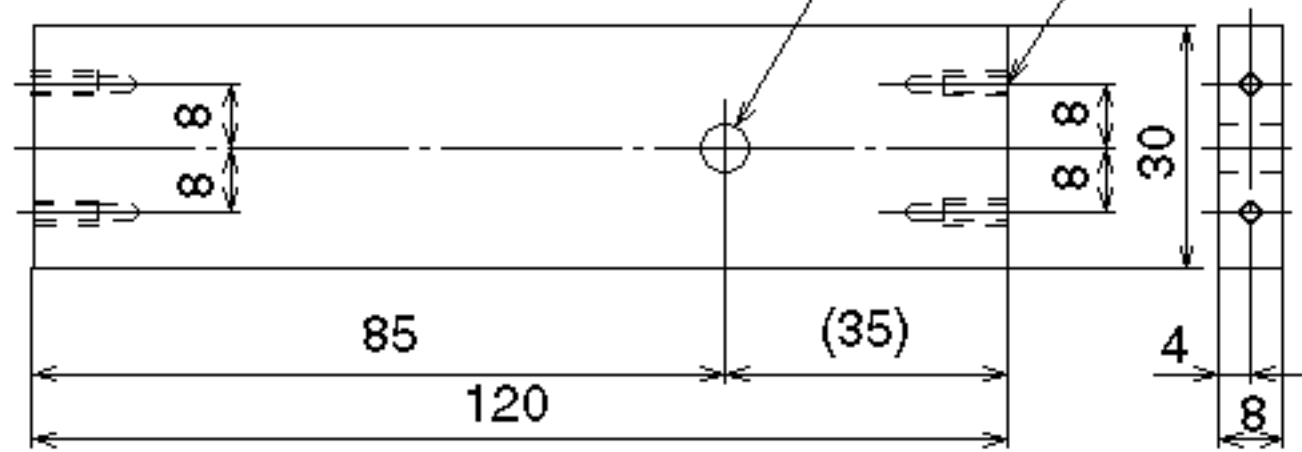


Number	Name	Material	Number of parts	Notes
10	Frame	aluminum	1	

10

4-M3, 8mm depth

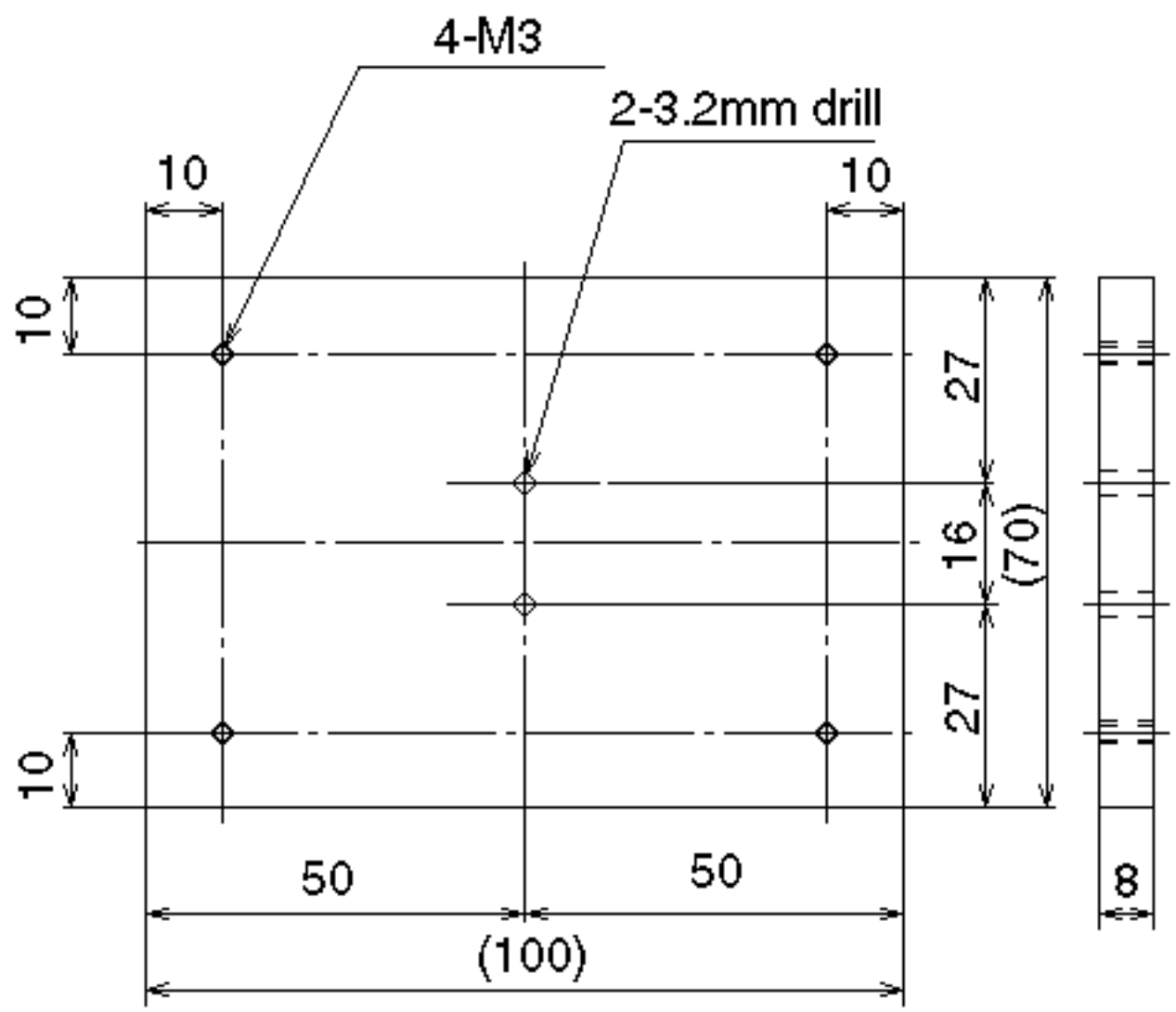
6mm drill



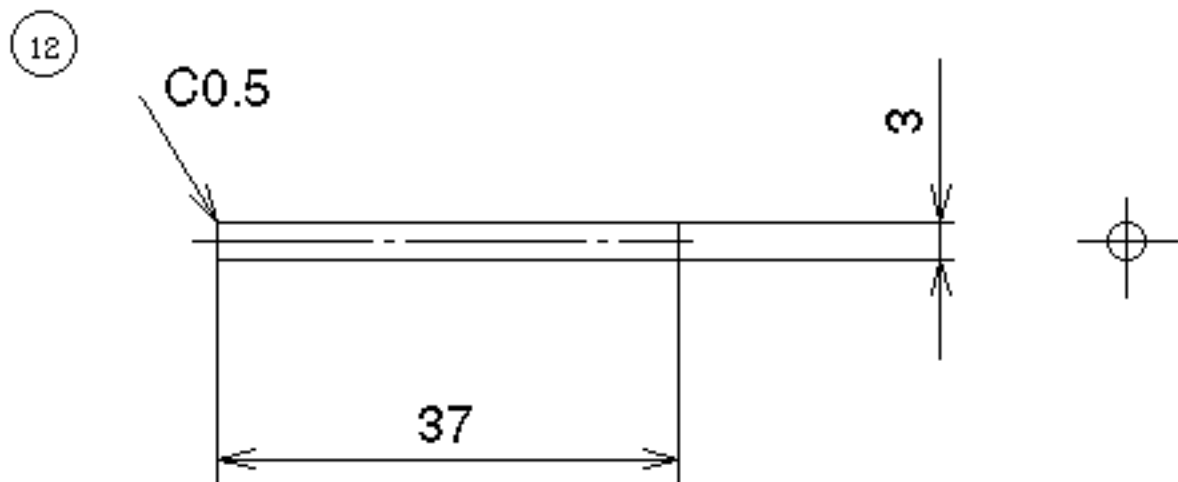


11

Number	Name	Material	Number of parts	Notes
11	Base	aluminum	1	

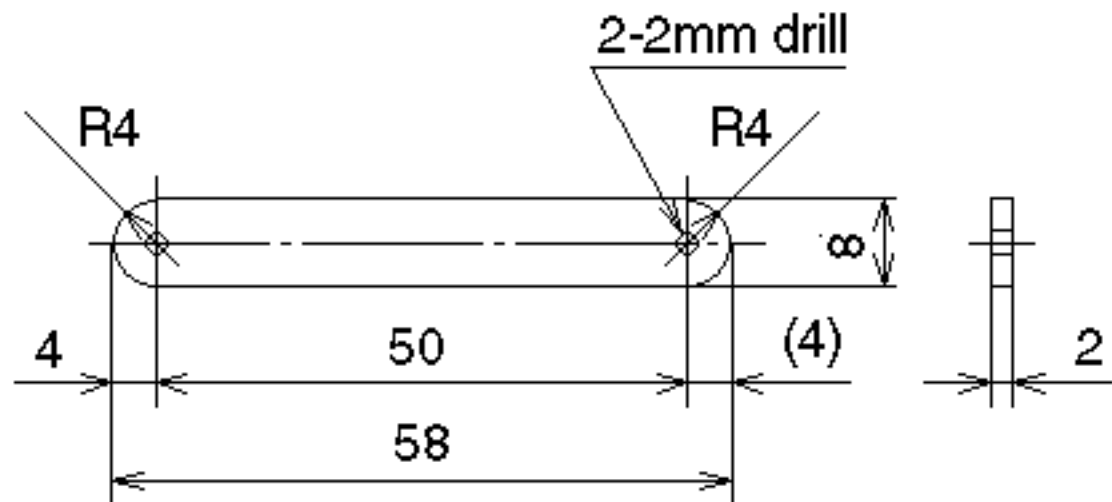


Number	Name	Material	Number of parts	Notes
12	Shaft	stainless	1	



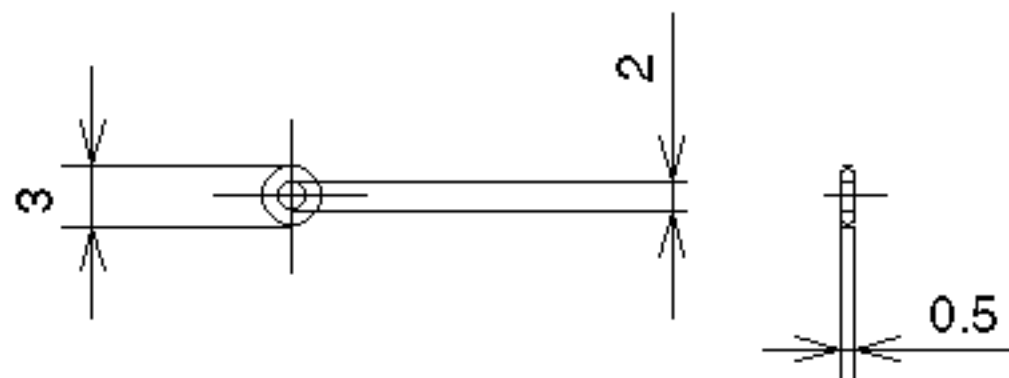
Number	Name	Material	Number of parts	Notes
13	Connecting rod	aluminum	2	

13



14

Number	Name	Material	Number of parts	Notes
14	Bush	steel wire	2	



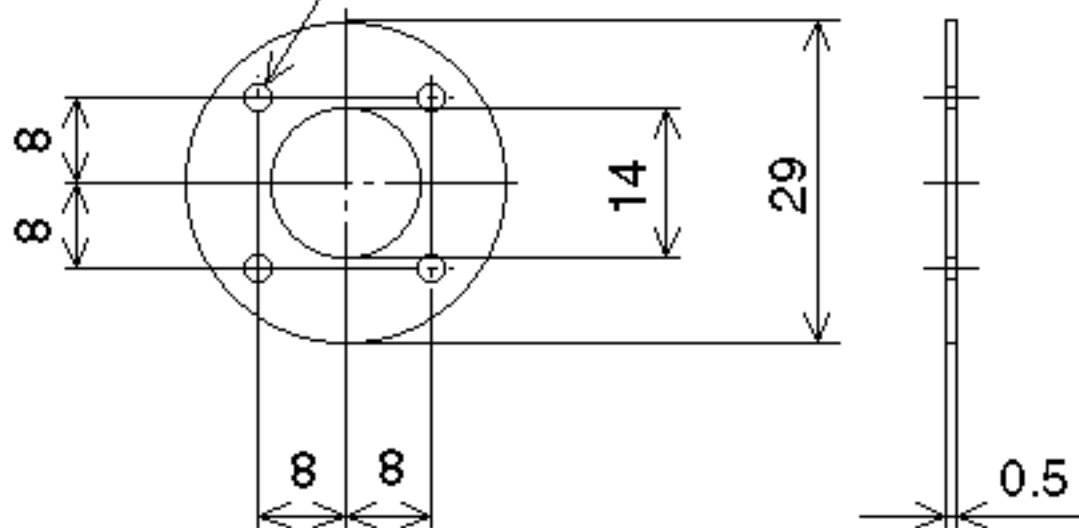
Note:

Bend a steel wire (0.5mm diameter).

Number	Name	Material	Number of parts	Notes
15	Gasket	silicone rubber	3	

15

4-3mm drill



Number	Name	Material	Number of parts	Notes
16	Gasket	silicone rubber	1	

18

