

March, 1996
(172 pages)

This recommendation has been prepared by the Technical Commission of EUROMAP.

1 Scope

In this recommendation the EUROMAP overall sizes of the clamping unit of injection moulding machines are defined. For each of them mould fixing and connection dimensions are standardized to provide interchangeability. This recommendation is mainly intended to be used for injection moulding machines with horizontal and vertical clamping units containing four tiebars and for tiebarless machines. However, for clamping units with two or three tiebars and for turn/shuttle table machines the hole or T-slot patterns shall be applied accordingly.

2 Mould fixing and connection dimensions

2.1 Overall size S

The overall size S of the clamping unit of an injection moulding machine is given by the greater value e_1 [mm] and the smaller value e_2 [mm] of the clearance between the neighbouring tiebars (see figure 1); example S 315/280. The clear widths are taken from the decimal-geometric series of preferred numbers R20 and R40 according to ISO 3:1973 and ISO 497:1973. See table 1.

For easy reference EUROMAP overall sizes E as per EUROMAP 2/3 (1983) are indicated as well.

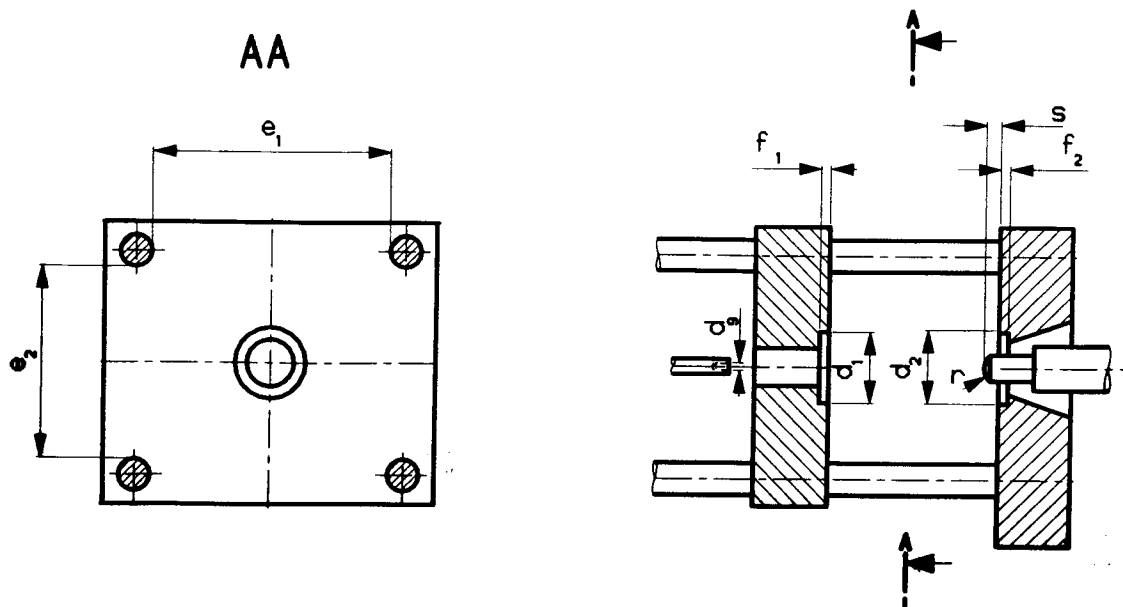


Figure 1: Clamping unit with tiebars

Explanation:

- d_1 = Diameter of mould location recess in the moveable platen
- d_2 = Diameter of mould location recess in the fixed platen
- d_g = Ejector thread
- e_1 = Greater value of the clearance between neighbouring tiebars
- e_2 = Smaller value of the clearance distance between neighbouring tiebars
- f_1 = Depth of the mould location recess in the moveable platen
- f_2 = Depth of the mould location recess in the fixed platen
- r = Nozzle radius
- s = Maximum nozzle protrusion into the mould

In case of a tiebarless machine the dimensions e_1 and e_2 are defined as in figure 2.

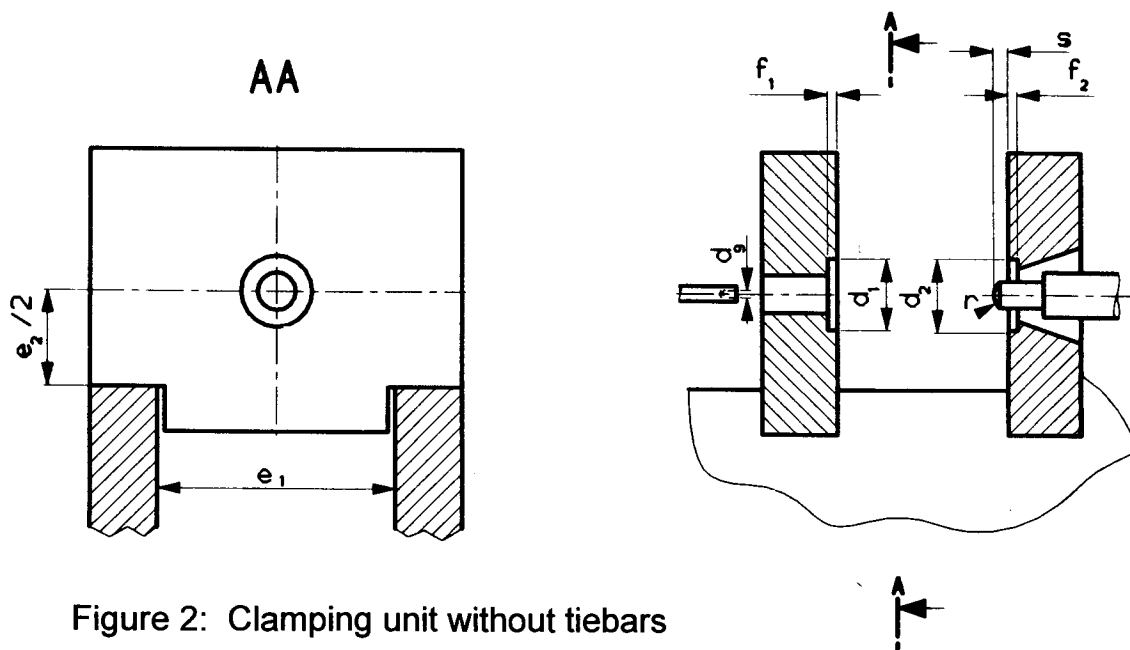


Figure 2: Clamping unit without tiebars

S e ₁ [mm] / e ₂ [mm]	E *)	S e ₁ [mm] / e ₂ [mm]	E *)	S e ₁ [mm] / e ₂ [mm]	E *)
S 200/200	E 1	S 630/560	-	S 2000/1600	-
S 224/200	-	S 710/560	-	S 1800/1800	E 20
S 250/200	-	S 630/630	E 11	S 2000/1800	-
S 224/224	E 2	S 710/630	-	S 2240/1800	-
S 250/224	-	S 800/630	-	S 2000/2000	E 21
S 280/224	-	S 710/710	E 12	S 2240/2000	-
S 250/250	E 3	S 800/710	-	S 2500/2000	-
S 280/250	-	S 900/710	-	S 2240/2240	E 22
S 315/250	-	S 800/800	E 13	S 2500/2240	-
S 280/280	E 4	S 900/800	-	S 2800/2240	-
S 315/280	-	S 1000/800	-	S 2360/2360	-
S 355/280	-	S 900/900	E 14	S 2650/2360	-
S 315/315	E 5	S 1000/900	-	S 3000/2360	-
S 355/315	-	S 1120/900	-	S 2500/2500	-
S 400/315	-	S 1000/1000	E 15	S 2800/2500	-
S 355/355	E 6	S 1120/1000	-	S 3150/2500	-
S 400/355	-	S 1250/1000	-	S 2650/2650	-
S 450/355	-	S 1120/1120	E 16	S 3000/2650	-
S 400/400	E 7	S 1250/1120	-	S 3350/2650	-
S 450/400	-	S 1400/1120	-	S 2800/2800	-
S 500/400	-	S 1250/1250	E 17	S 3150/2800	-
S 450/450	E 8	S 1400/1250	-	S 3550/2800	-
S 500/450	-	S 1600/1250	-	S 3000/3000	-
S 560/450	-	S 1400/1400	E 18	S 3350/3000	-
S 500/500	E 9	S 1600/1400	-	S 3350/3350	-
S 560/500	-	S 1800/1400	-	S 3550/3550	-
S 630/500	-	S 1600/1600	E 19		
S 560/560	E 10	S 1800/1600	-		

Table 1: EUROMAP overall size

*) according previous edition EUROMAP 2/3 (1983)

2.2 Fixing holes and T-slots

The area where no fixing holes and T-slots shall be made is defined with $0,7 e_1 \times 0,7 e_2$. For magnetic and power operated mould fixing systems fixing holes or T-slots are not required.

2.2.1 Fixing holes

In comparison with T-slots the use of fixing holes is preferred. They shall be in accordance with 2.4 and arranged according to 2.5.

2.2.2 T-slots

Instead of fixing holes, T-slots according to ISO 299 may be used. They shall be in accordance with 2.4 and arranged according to 2.6.

2.3 Ejector holes

All ejector holes shown as  are optional only.

However, if ejector holes are made, fixing holes in conflict shall be deleted.

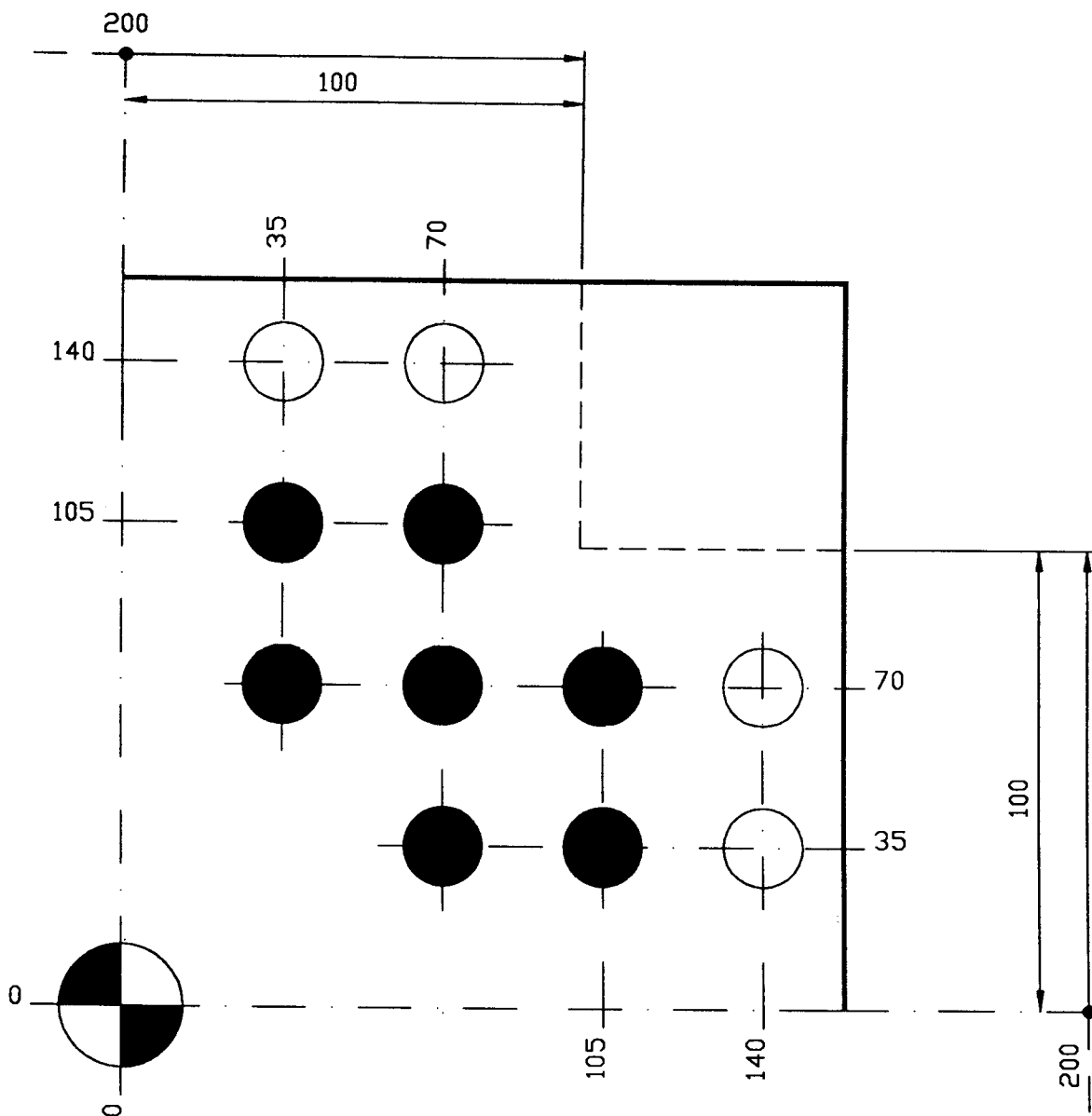
2.4 Dimensions (mm)

Smaller value of the clearance between neighbouring tiebars	Mould location recess diameters	Minimum mould location recess depth	Mould mounting threads	Depth of mould mounting threads	T-slot width	Internal thread in the central ejector	Nozzle radius	Maximum installed nozzle protrusion depth	Ejector pins diameter hole			
e_2	d_{1H8} d_{2H8}	$f_1; f_2$	d_8	$t_{h \min}$	t_s^{H12}	d_9	r	s	d_{\min}			
200	80	10	M 12	24	14	M 12	15 or 20 or 25 or 35	10	25,4			
224												
250	100					M 16				32	18	M 16
280												
315	125		M 20	40	22	M 20						
355												
400												
450												
500	160		M 24	48	28	M 24						
560												
630	200	20	M 30	60	36	20	30	50,8				
710												
800												
900												
1000												
1120												
1250			250	M 36	72	42	M 36		25	50		
1400												
1600												
1800												
1900	315	20	M 36	72	42	35	50	50,8				
2000												
2120												
2240												
2360												
2500												
2650												
2800												
3000												
3150												
3350												
3550												

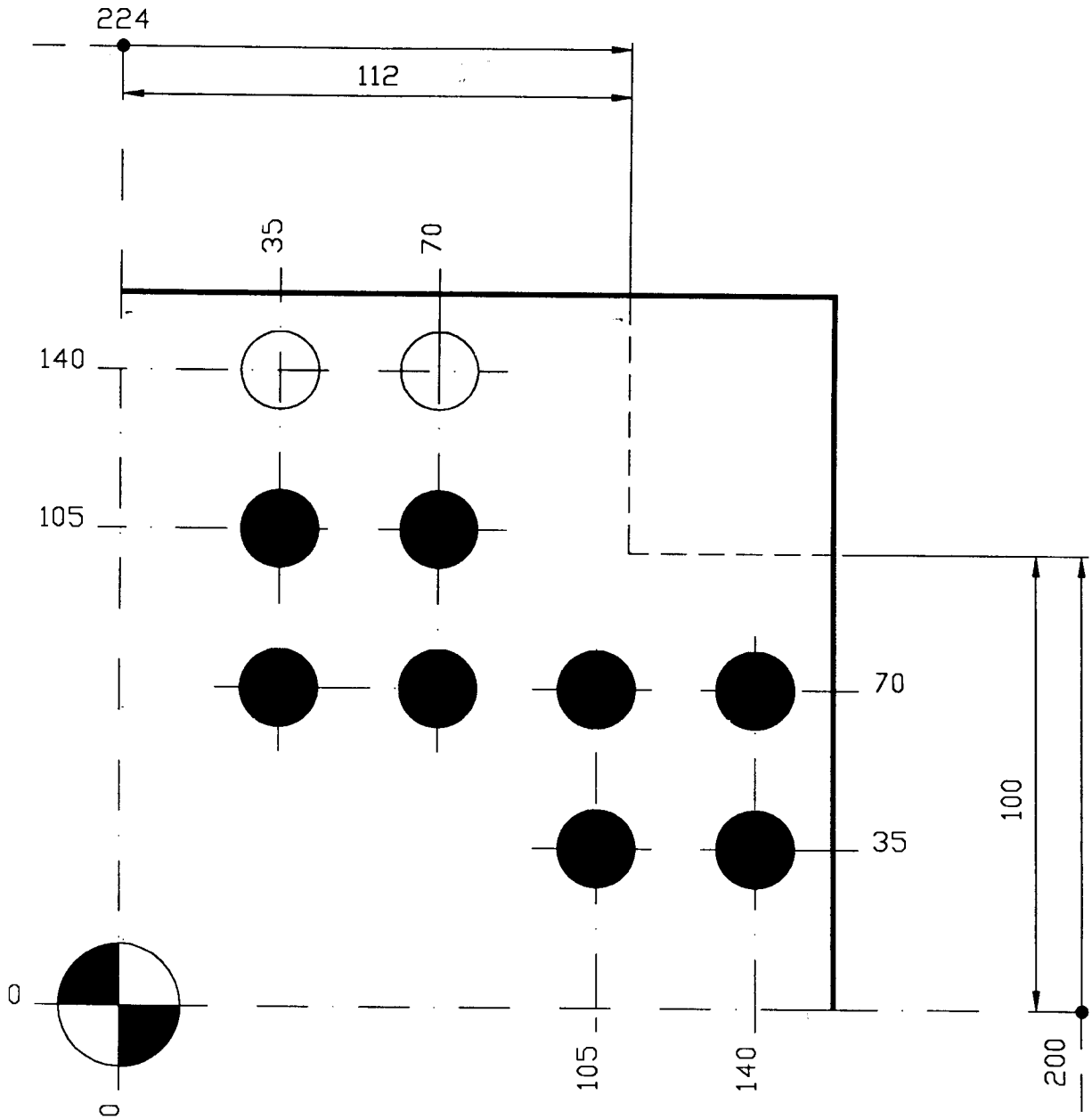
2.5 Hole patterns

Fixing holes indicated with a blackened circle ● shall be made.
Fixing holes indicated with an open circle ○ shall be made only, if the distance from the center line to the outer dimension of the platens $\geq 1,75 d_8$

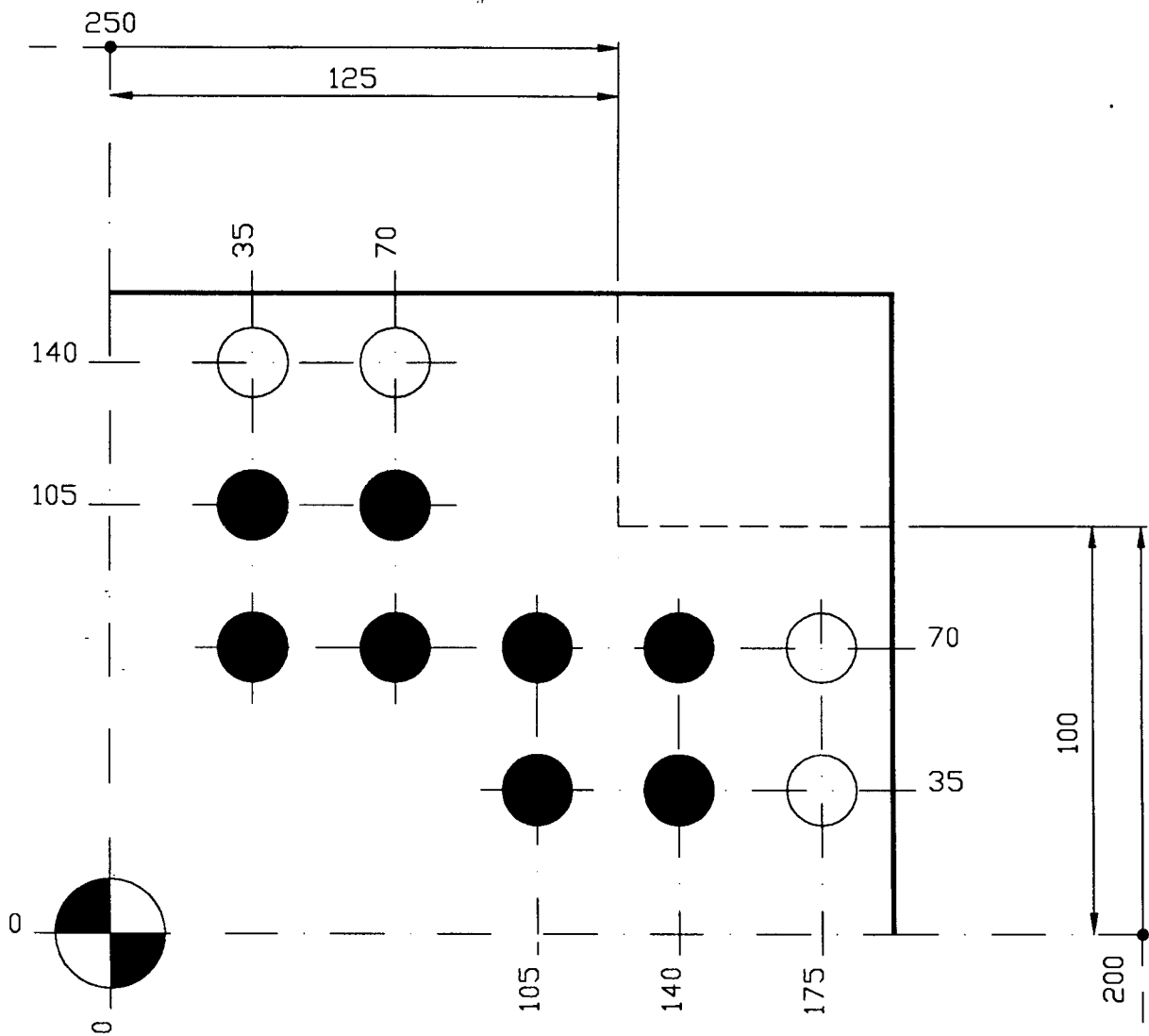
S 200/200



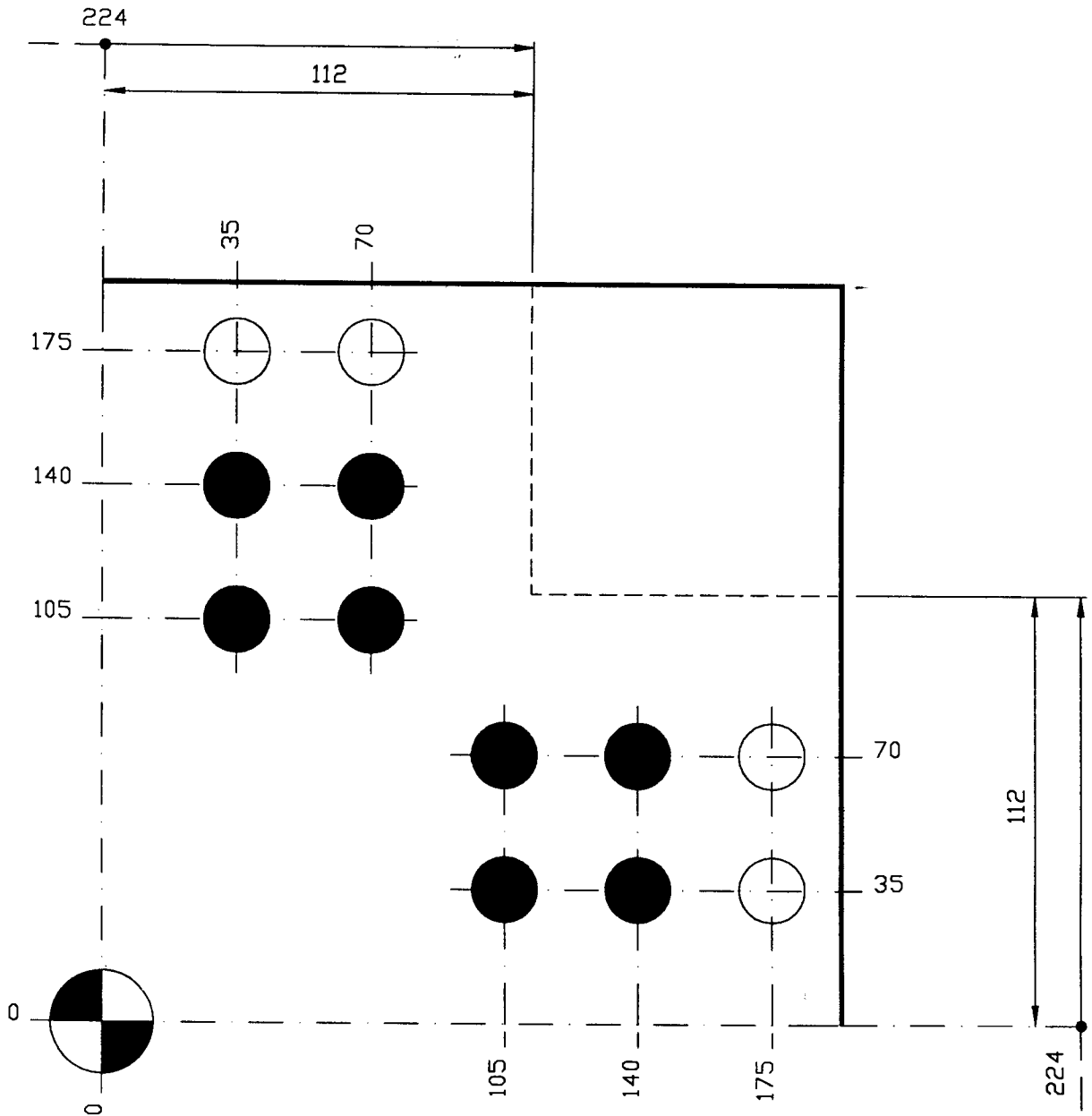
S 224/200



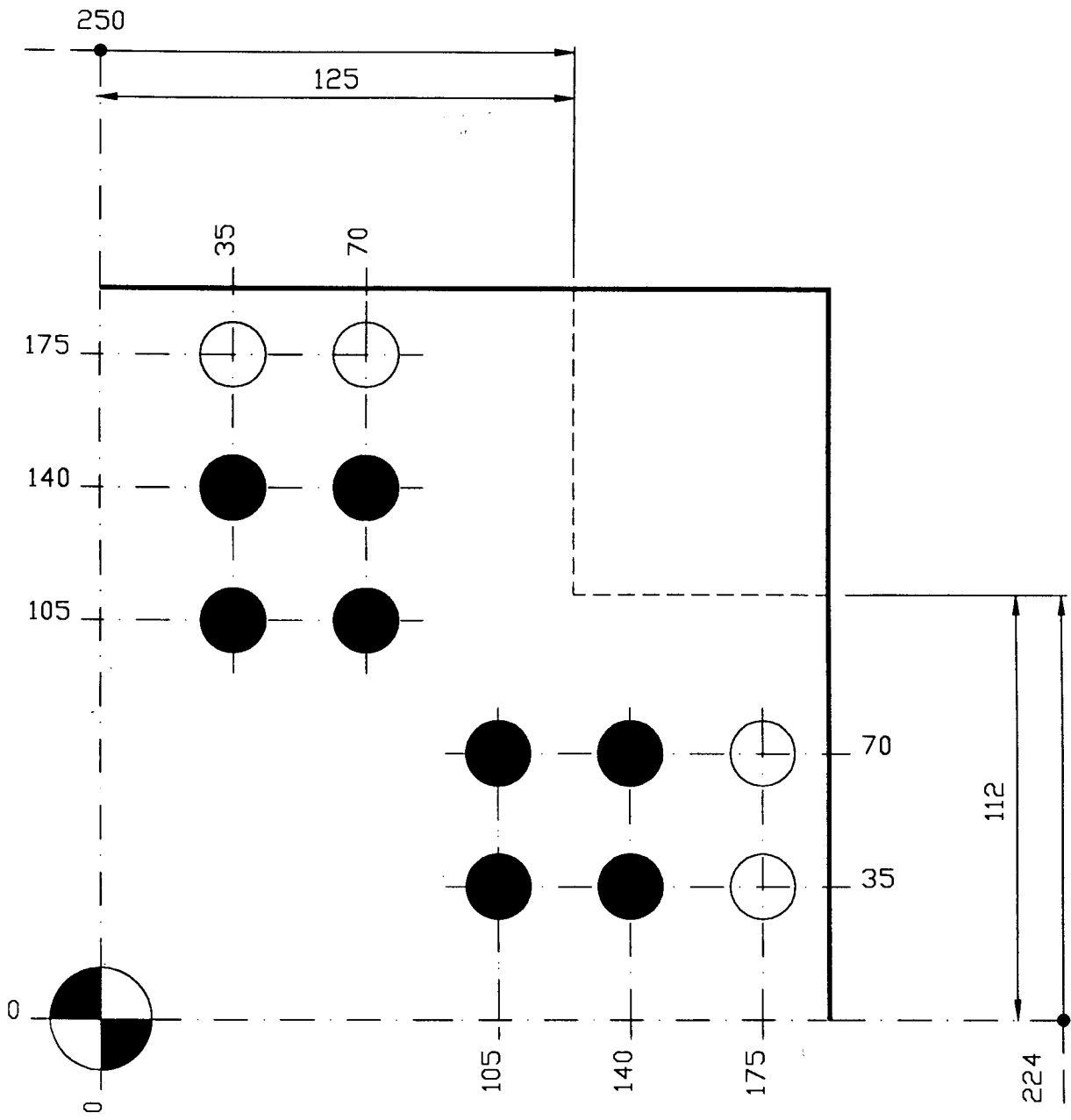
S 250/200



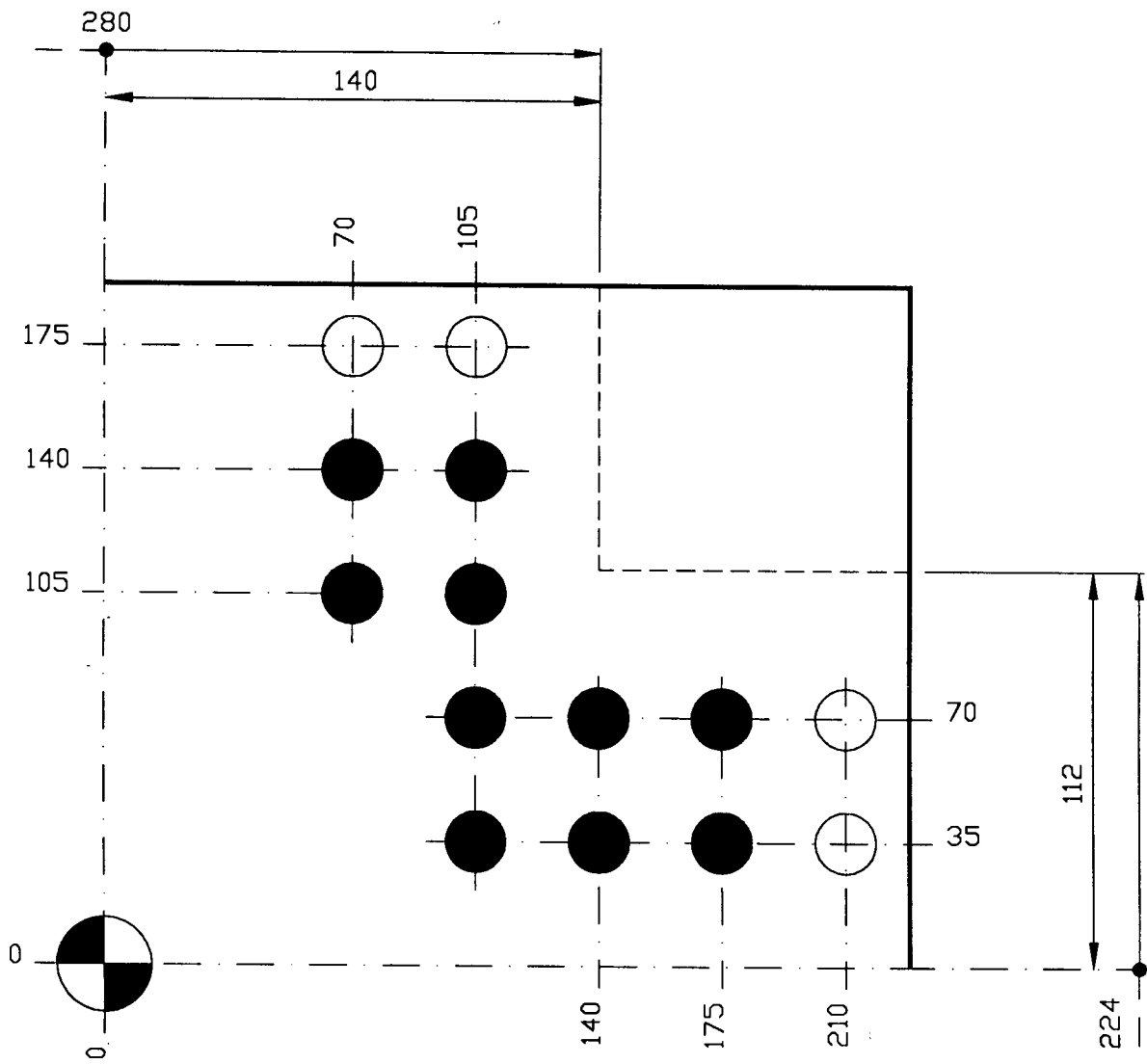
S 224/224



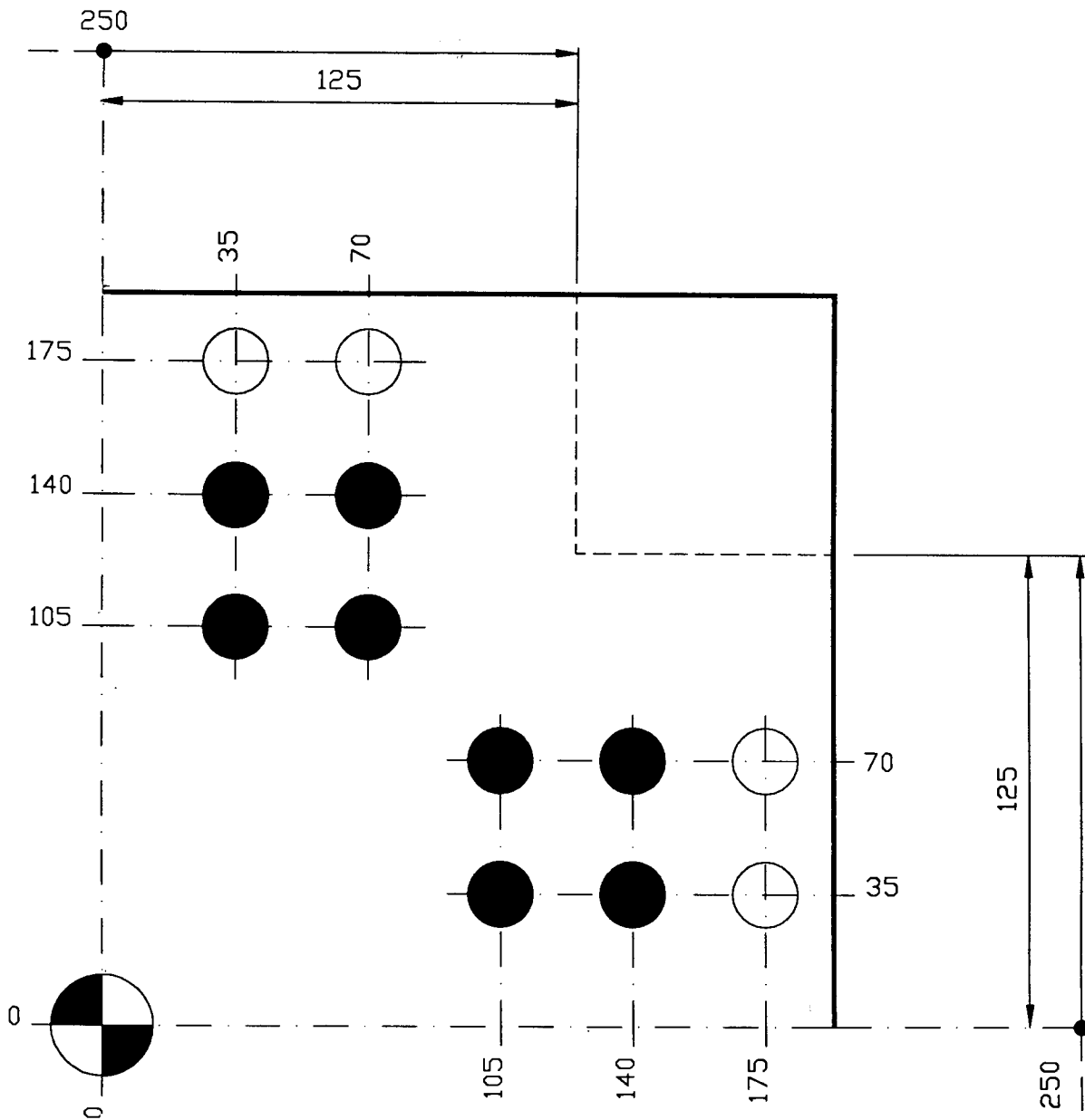
S 250/224



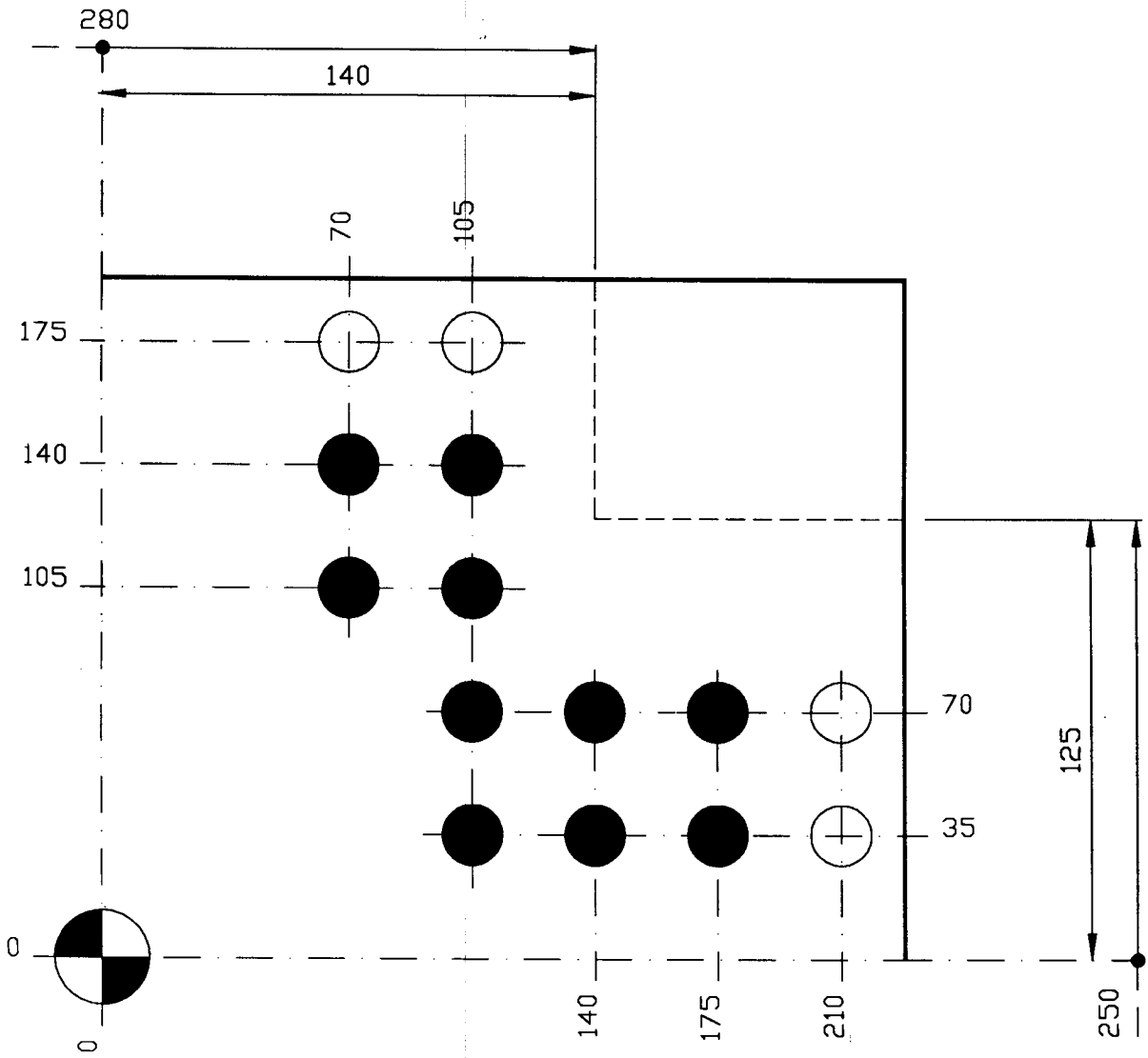
S 280/224



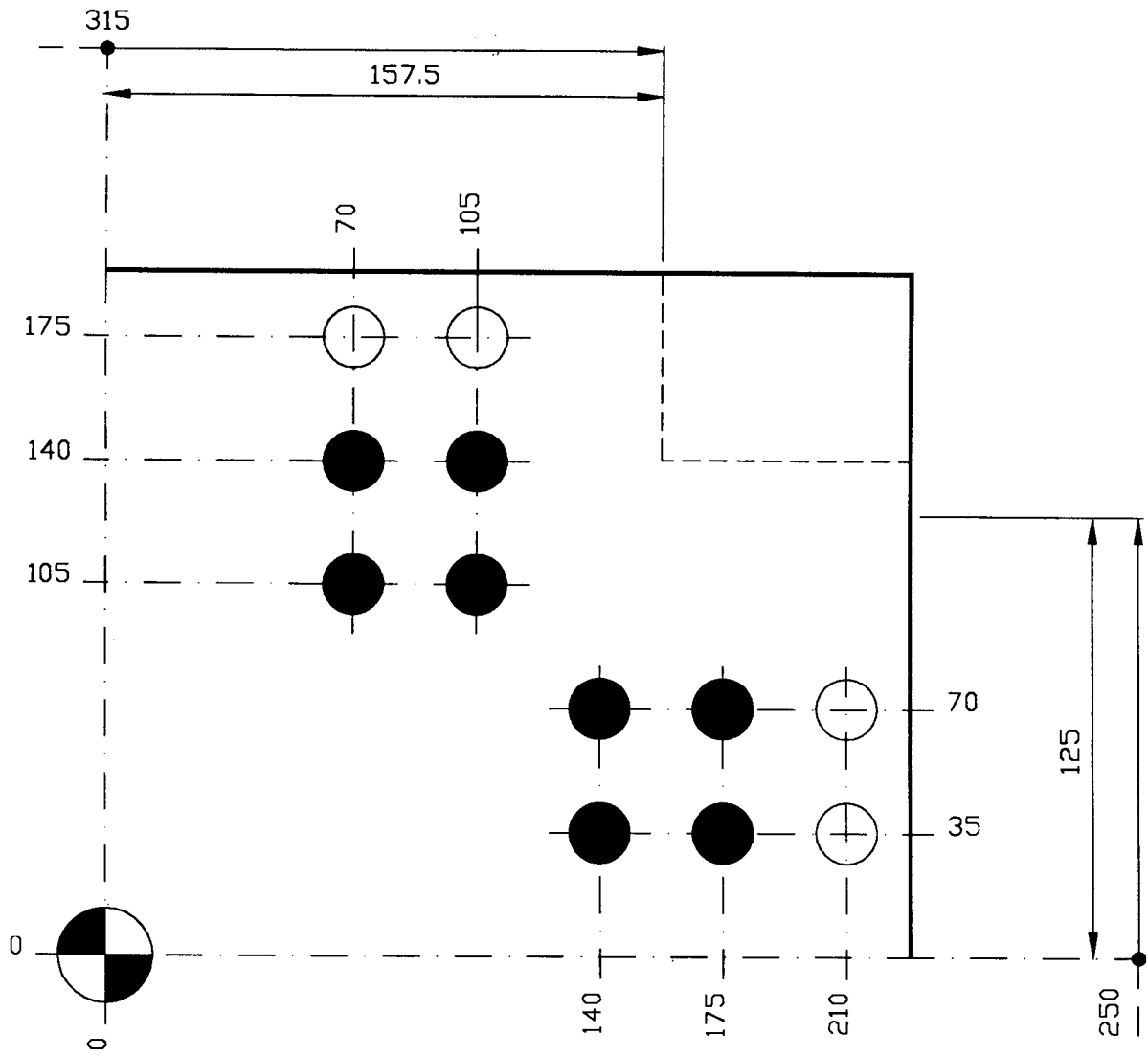
S 250/250



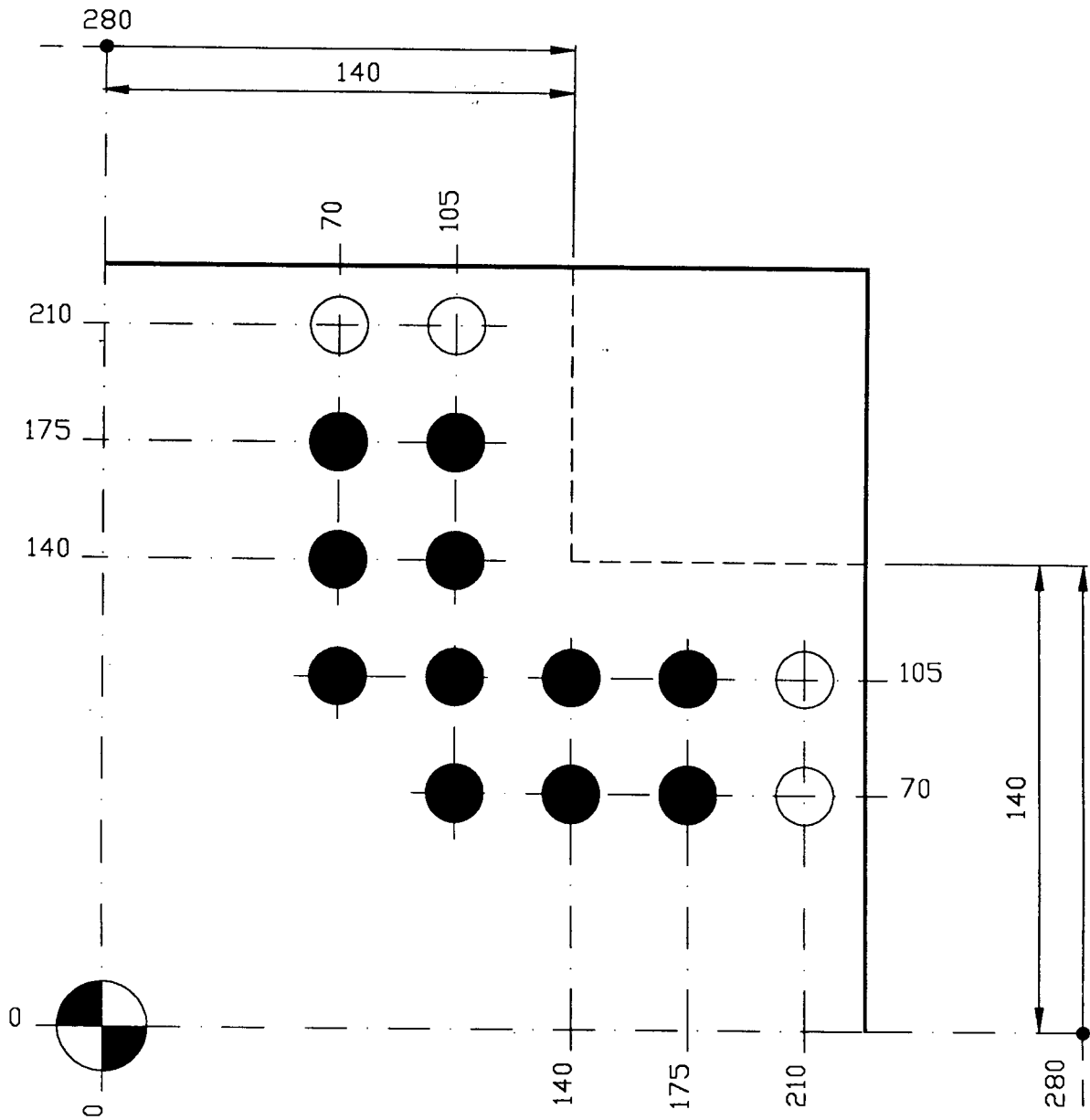
S 280/250



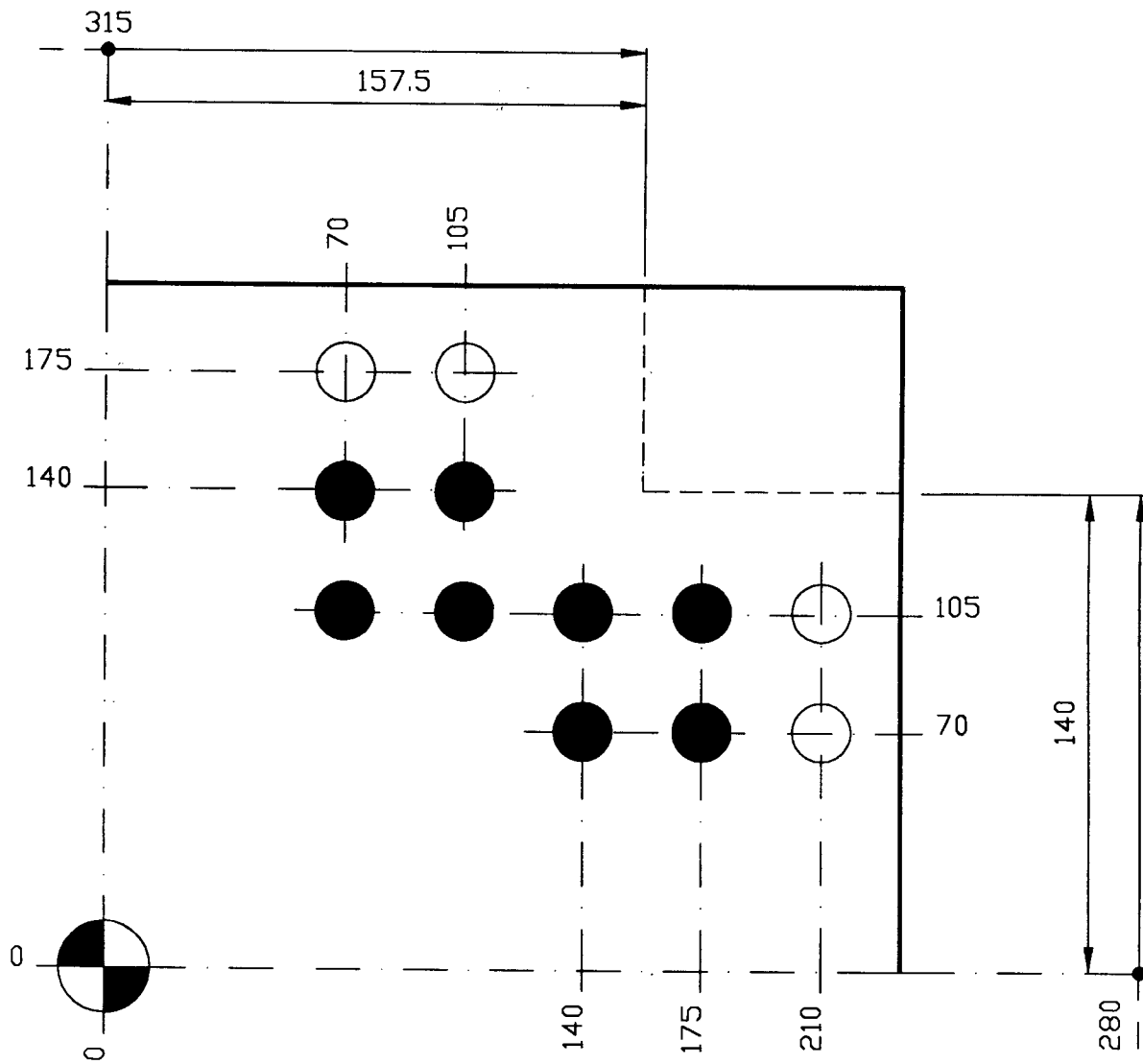
S 315/250



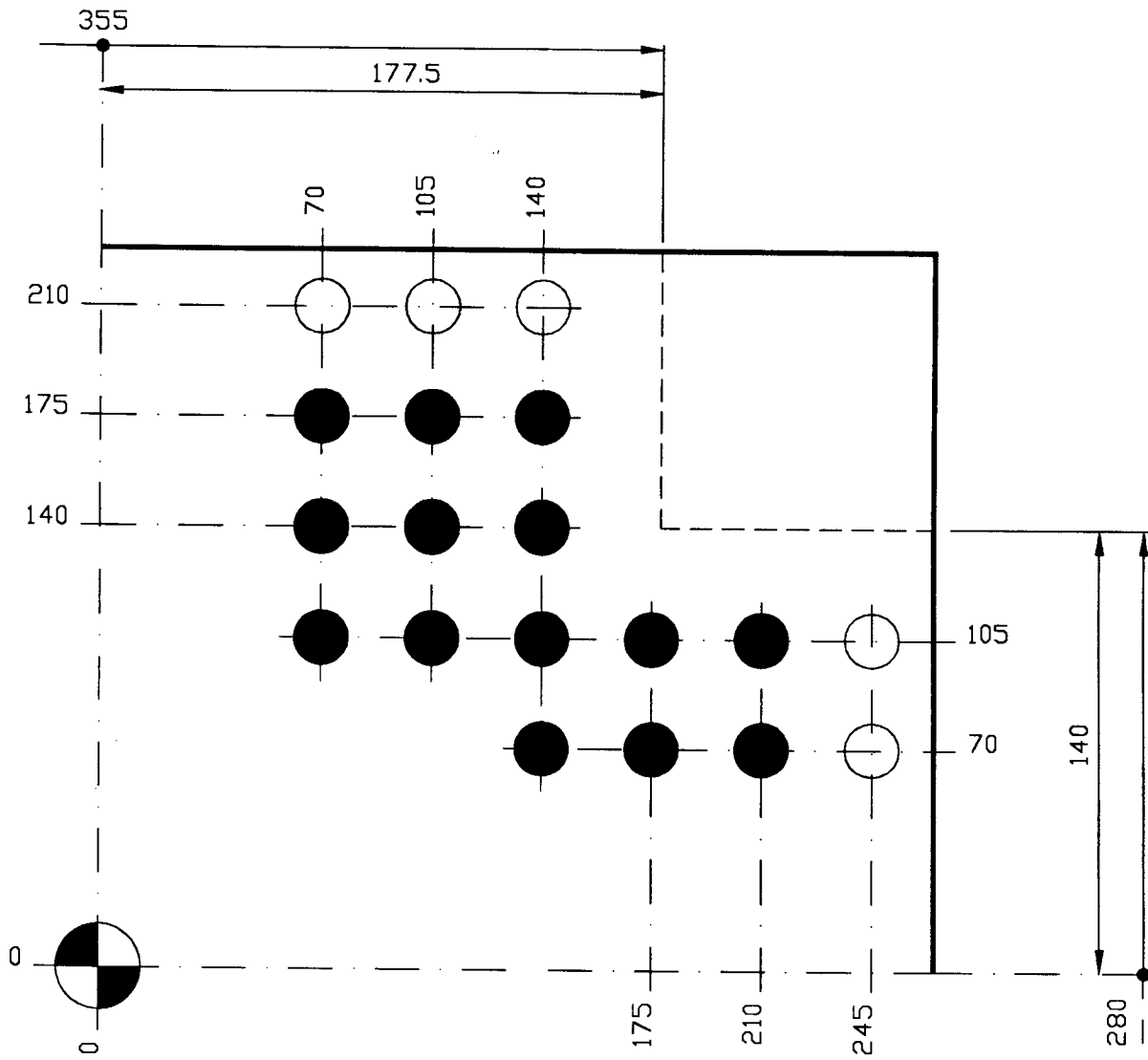
S 280/280



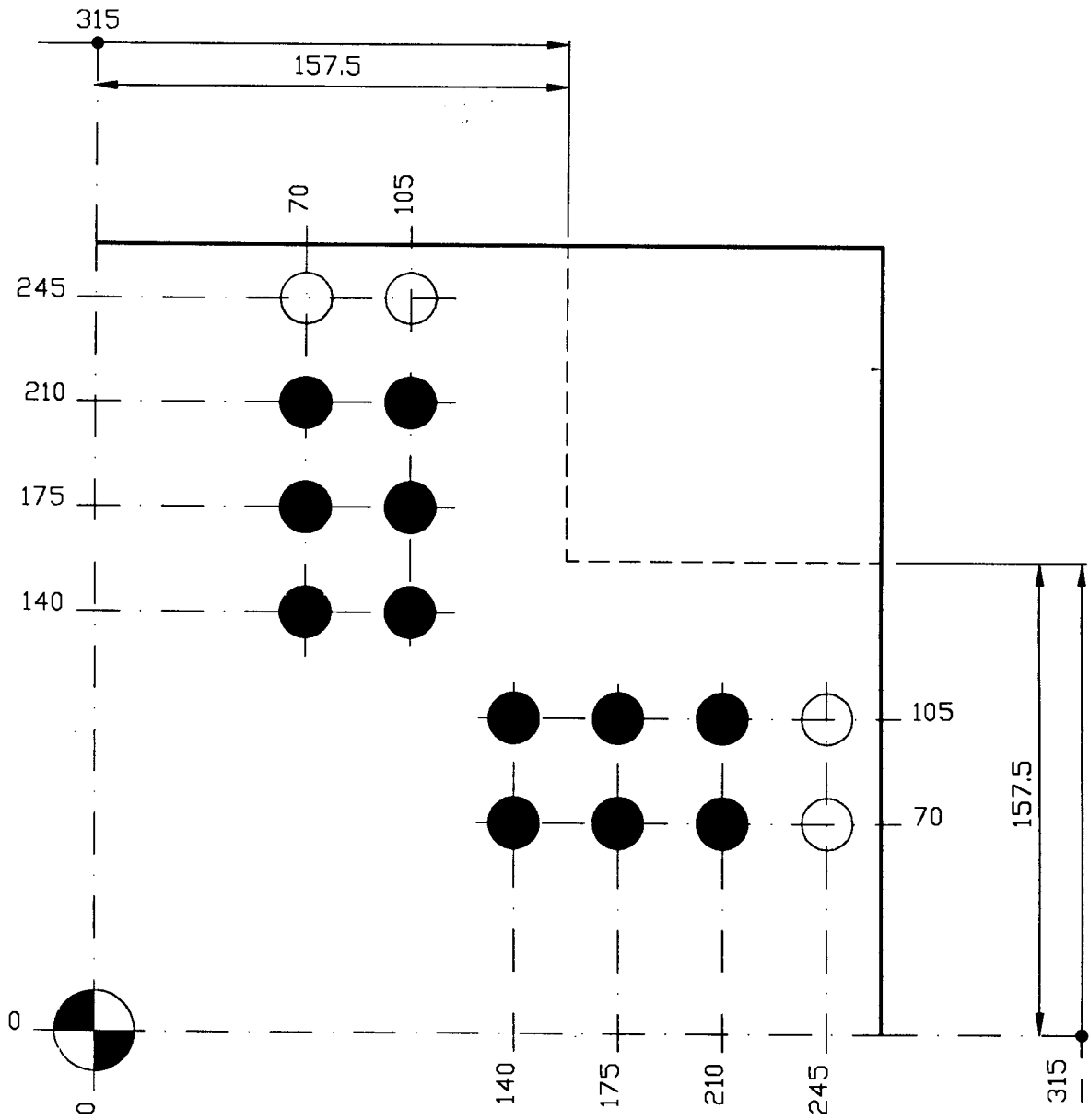
S 315/280



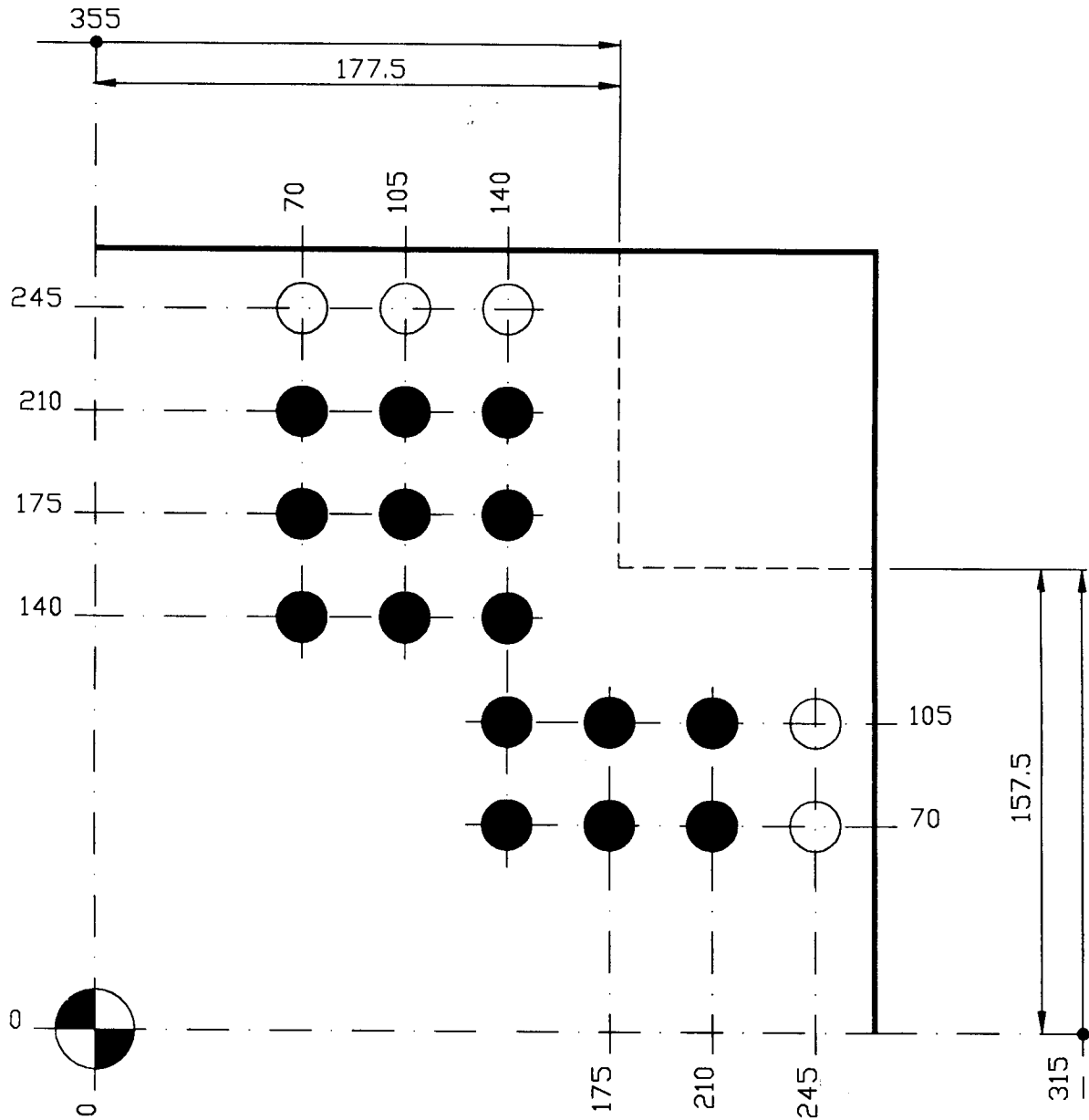
S 355/280



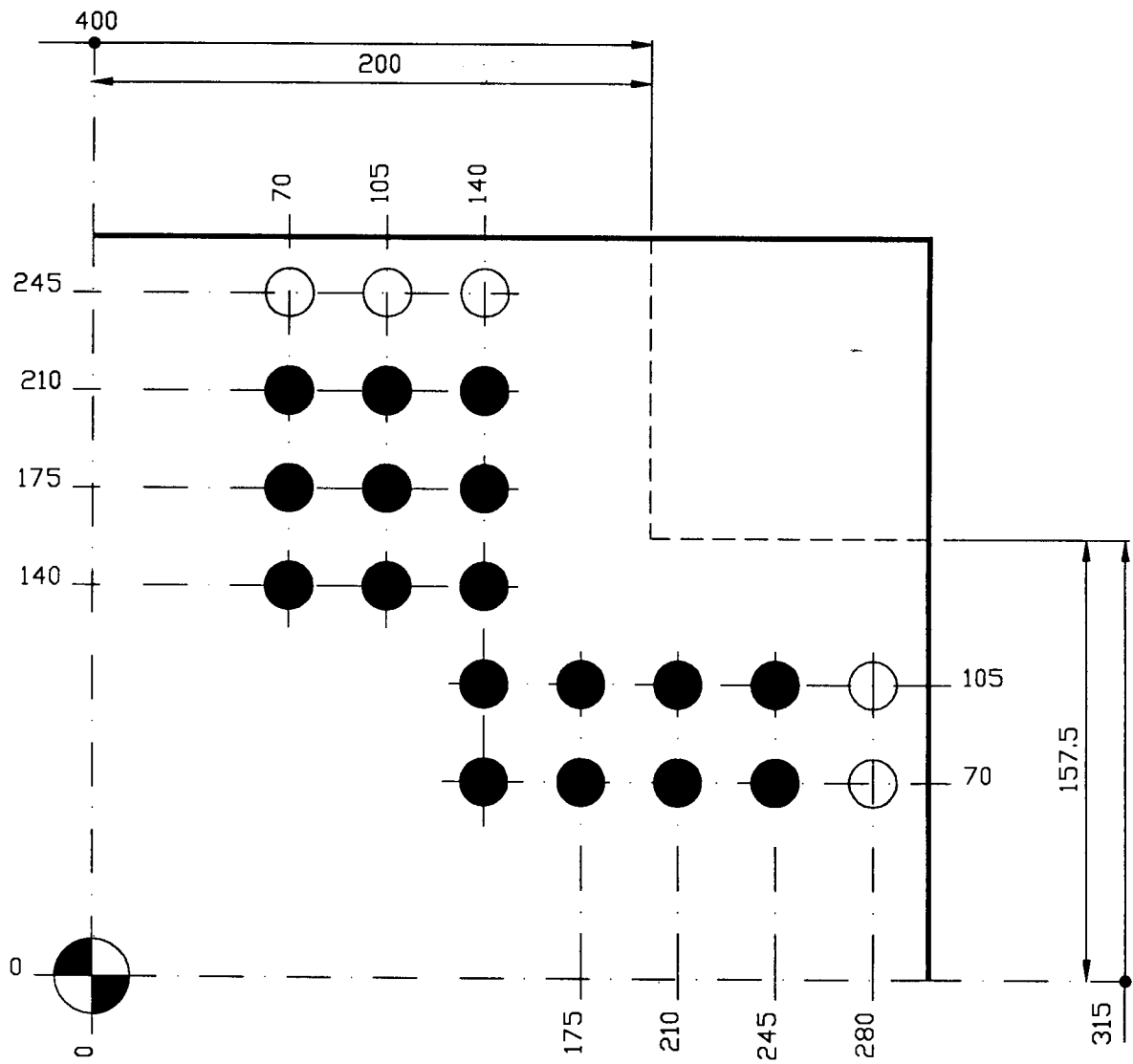
S 315/315



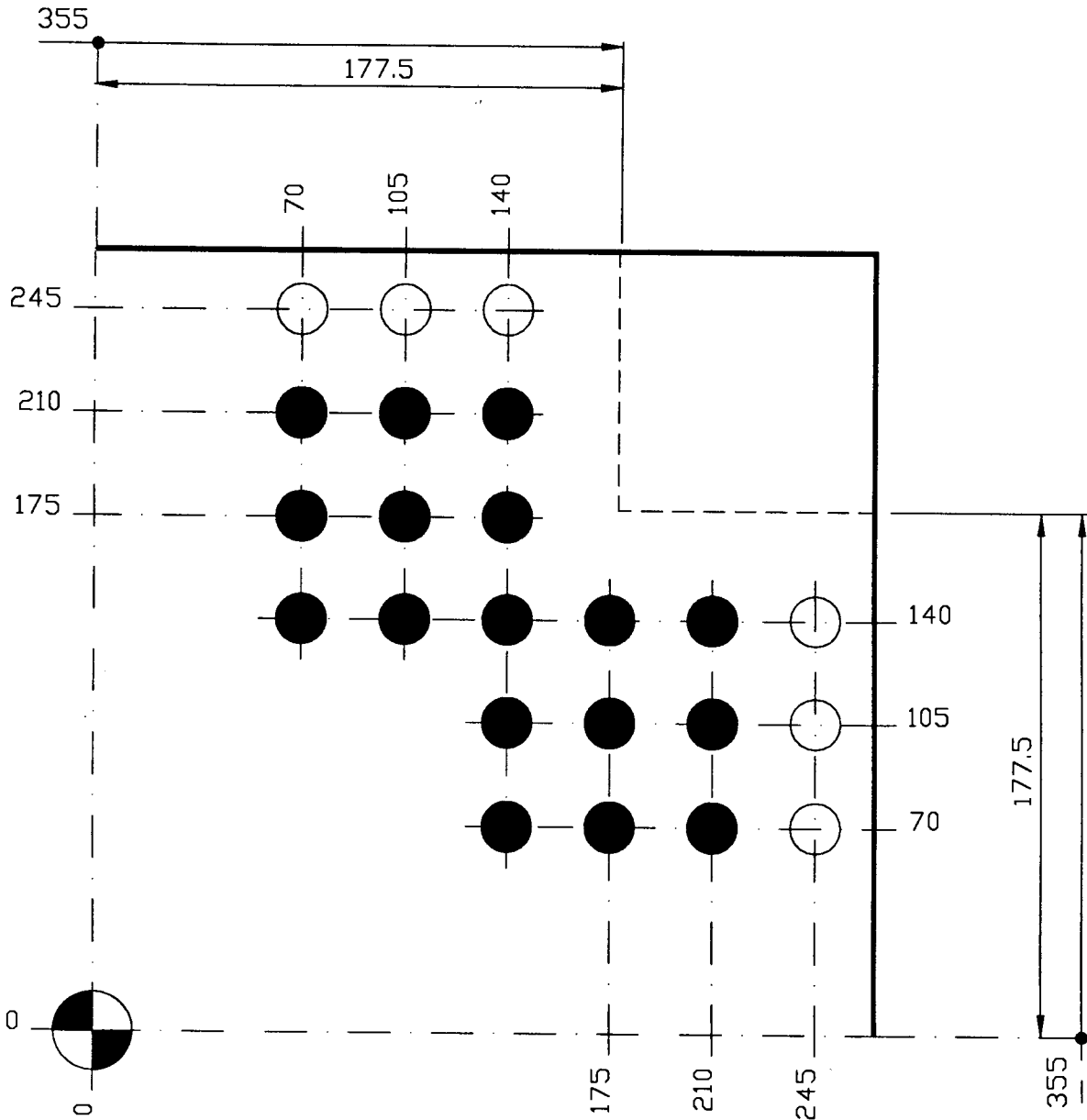
S 355/315



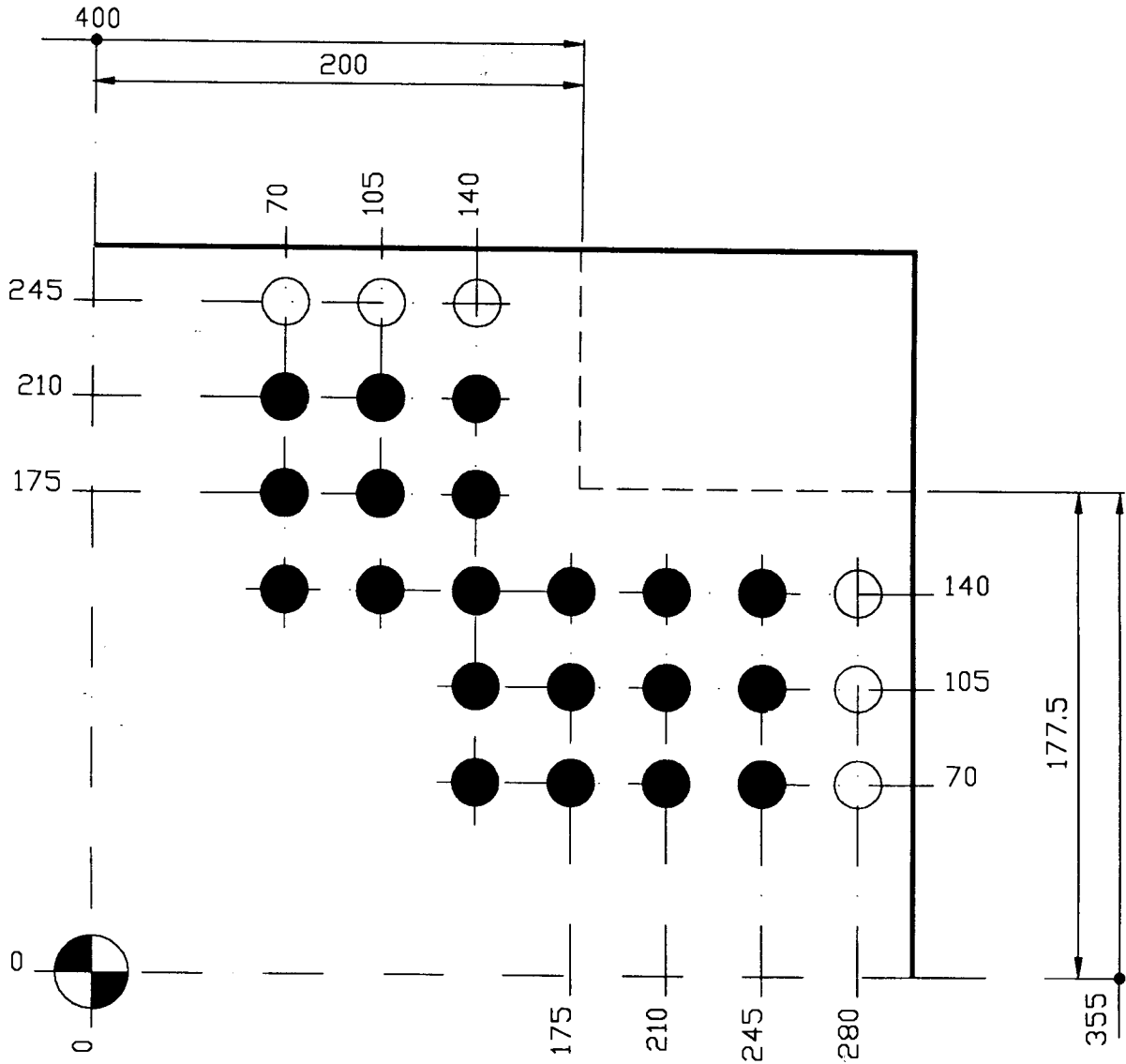
S 400/315



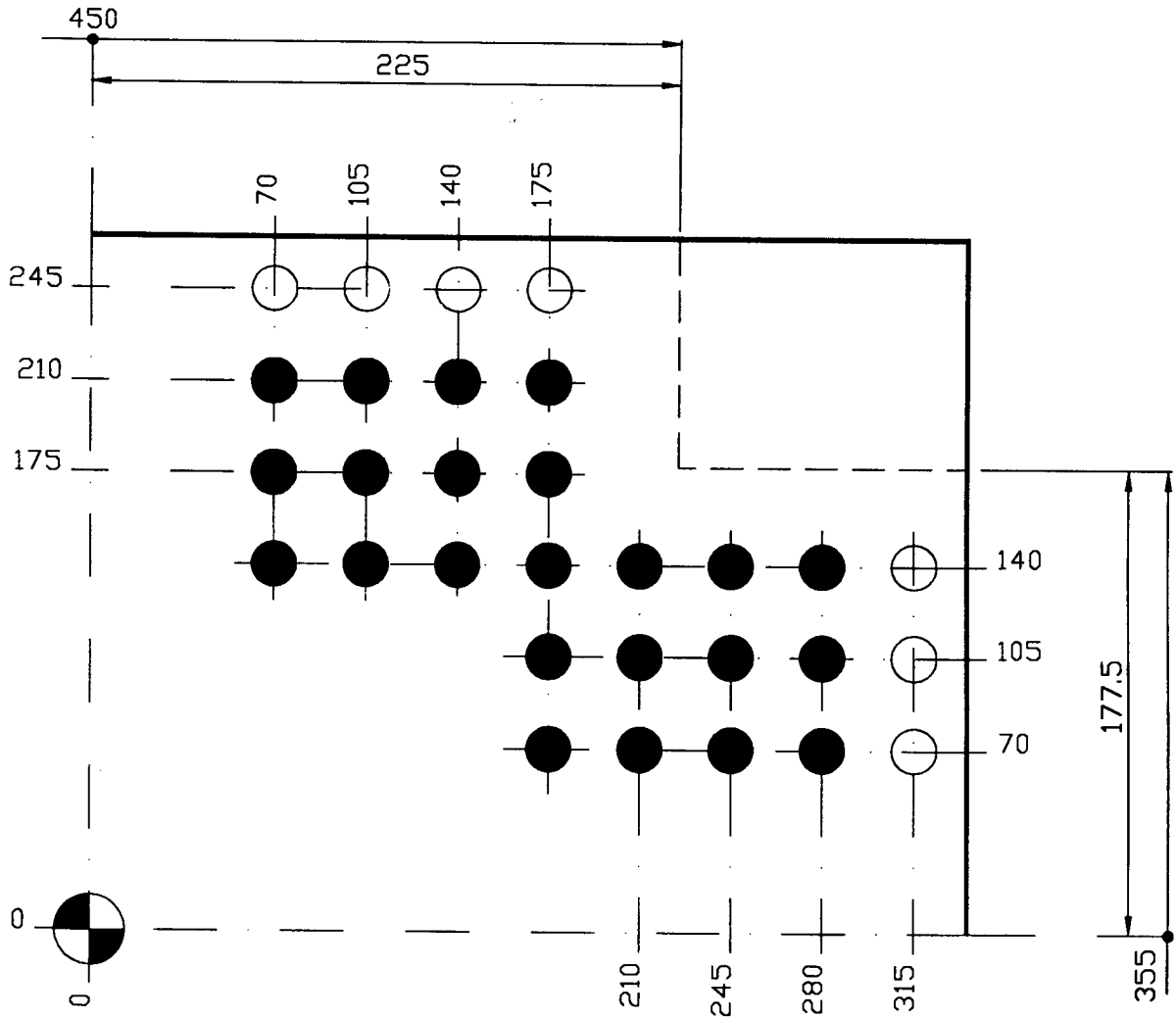
S 355/355



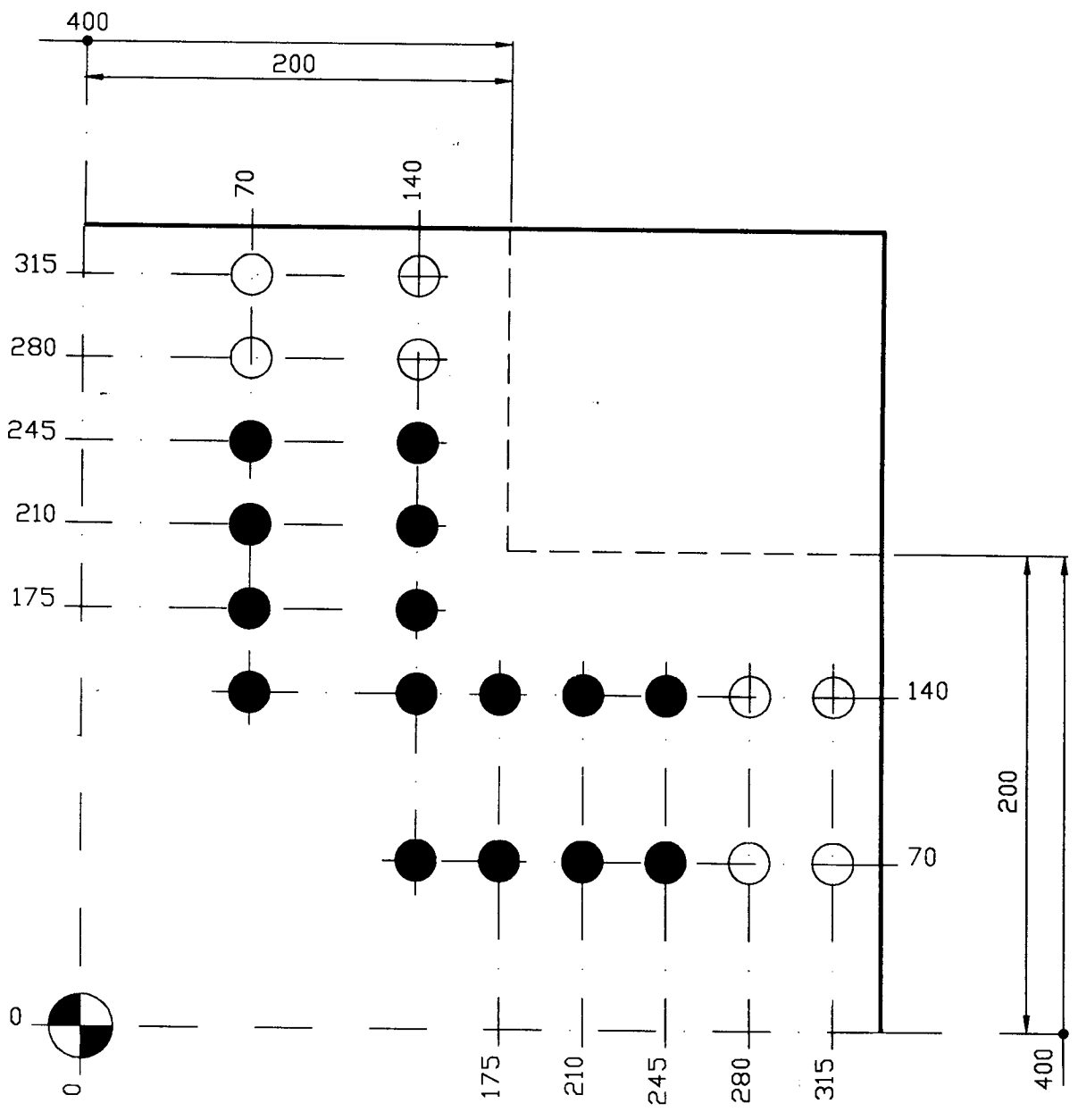
S 400/355



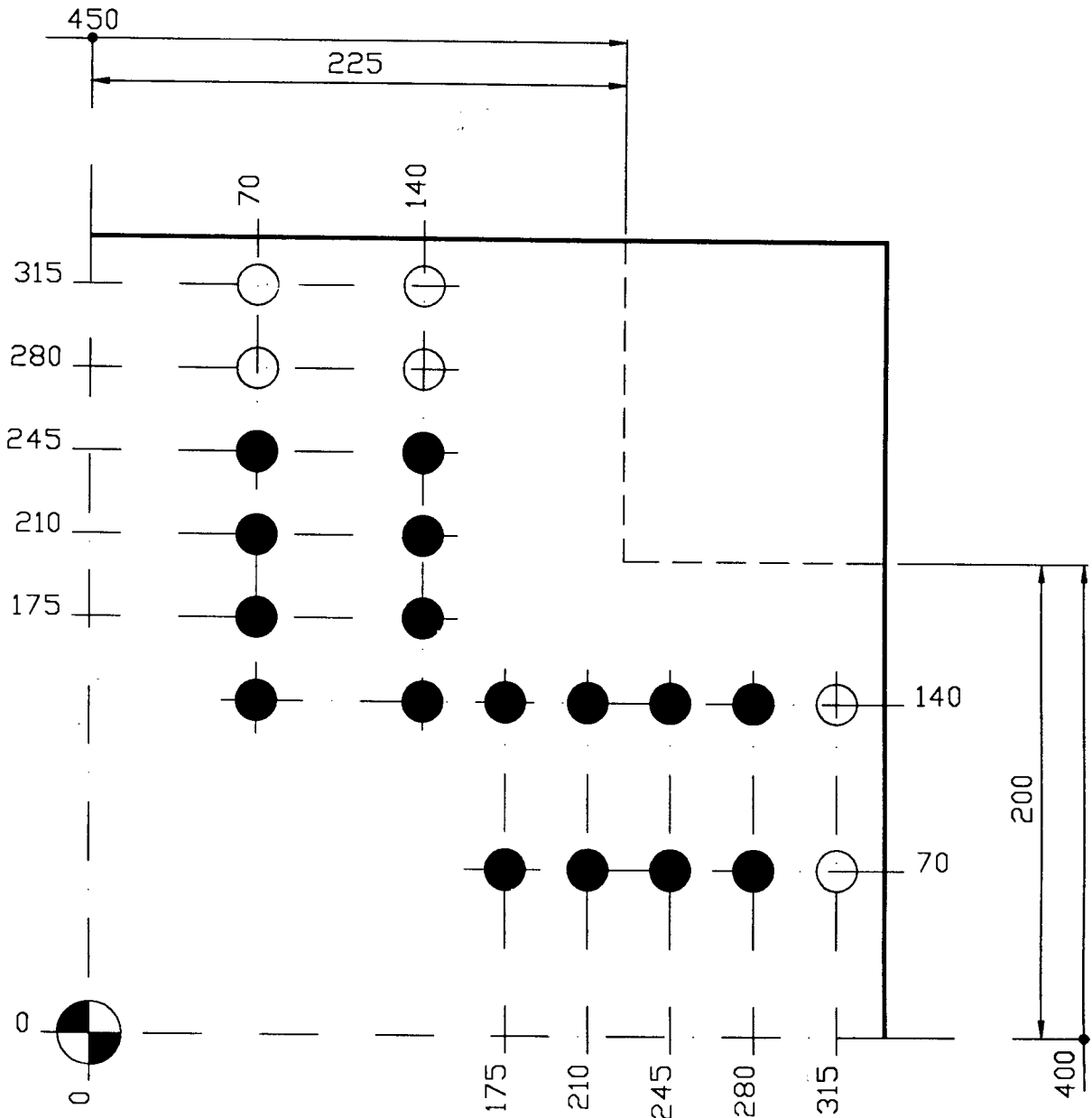
S 450/355



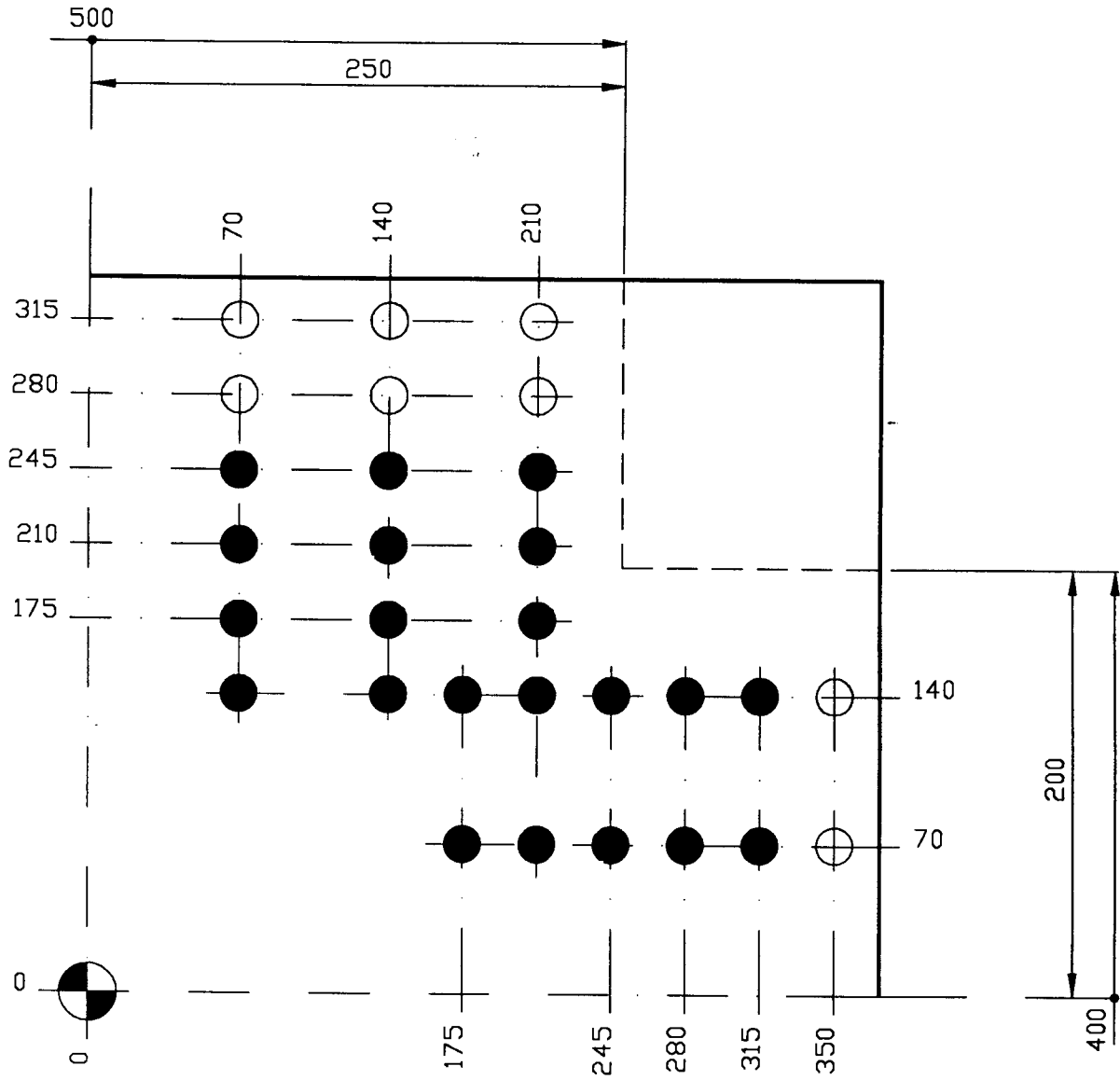
S 400/400



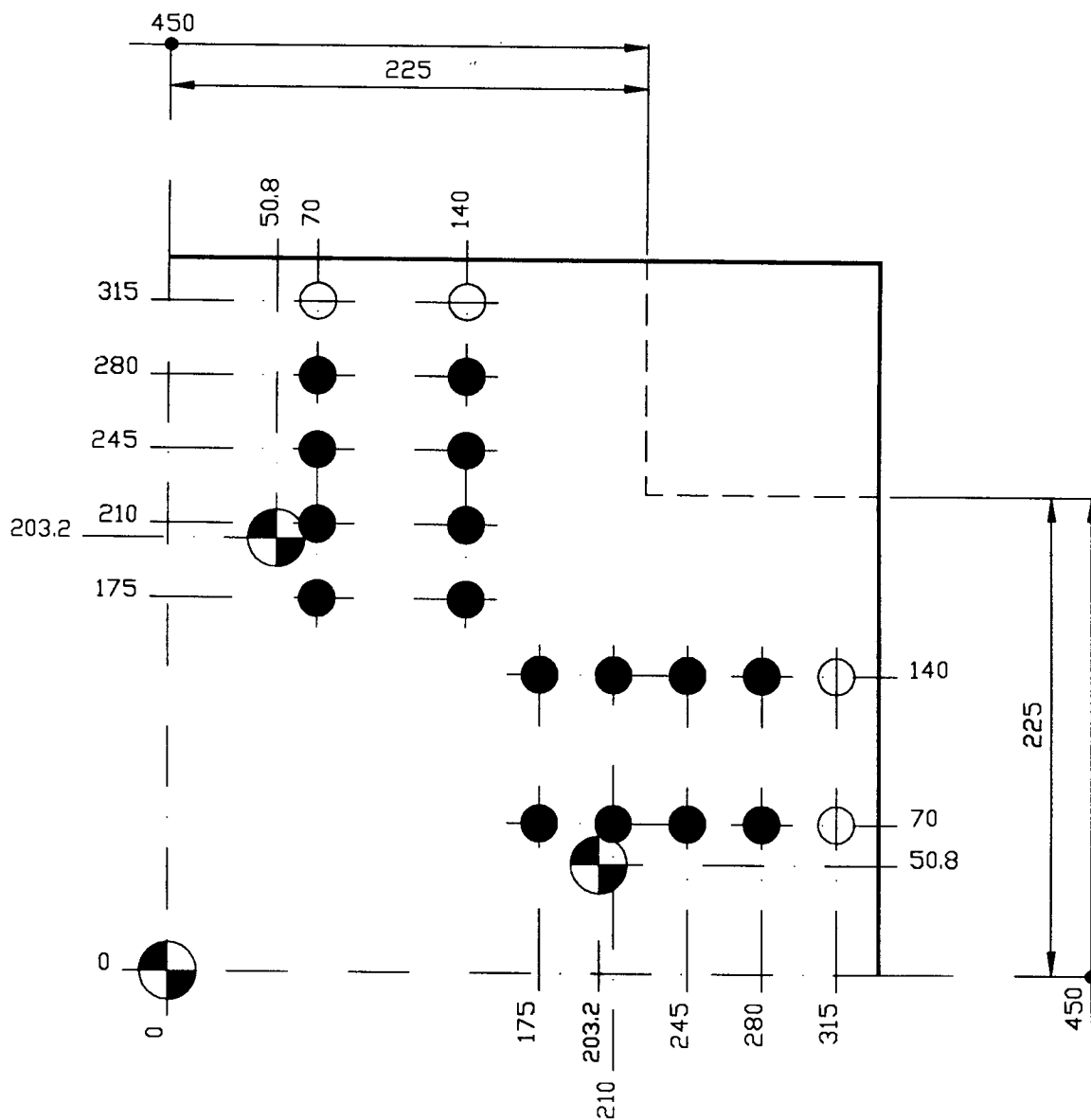
S 450/400



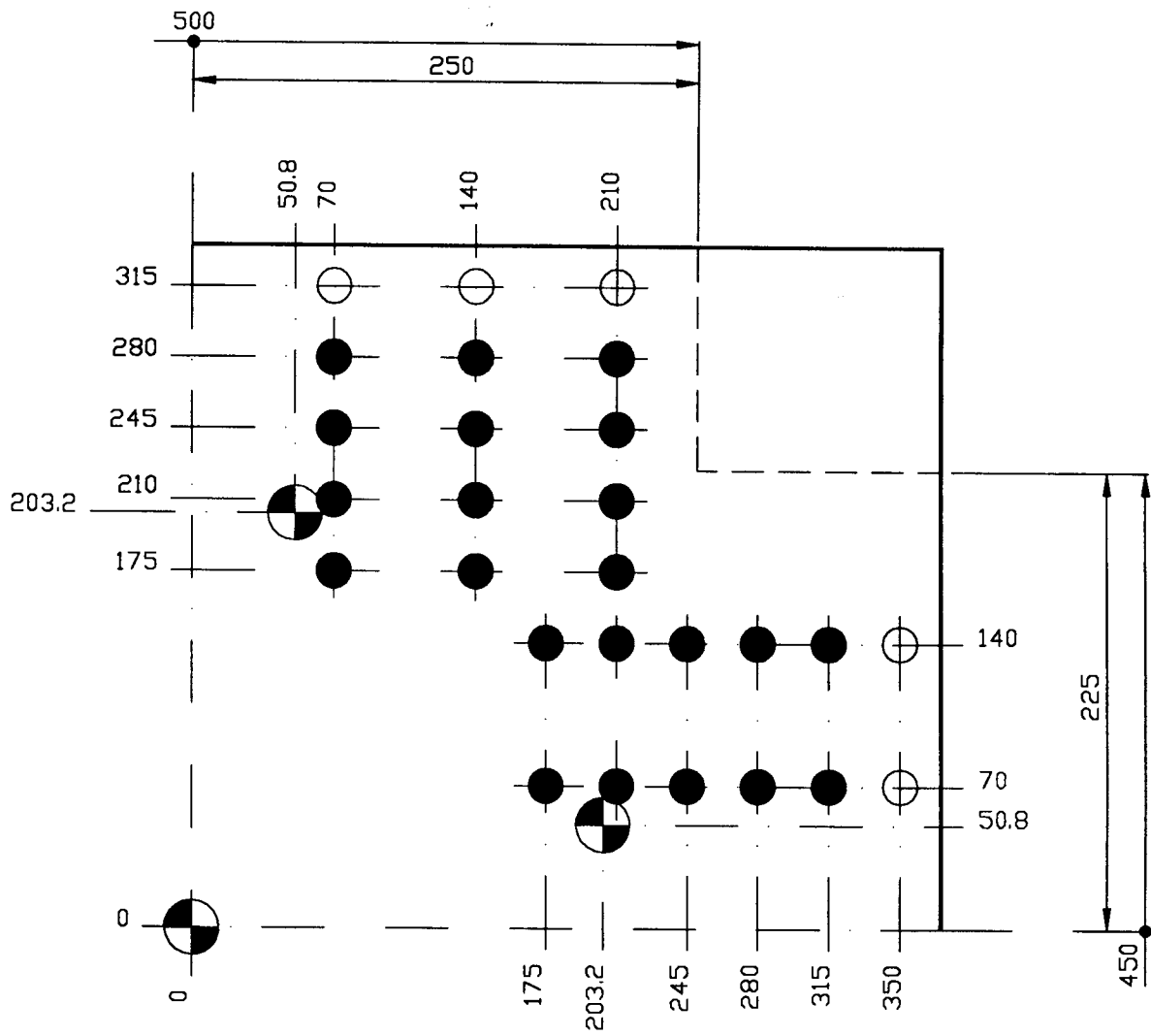
S 500/400



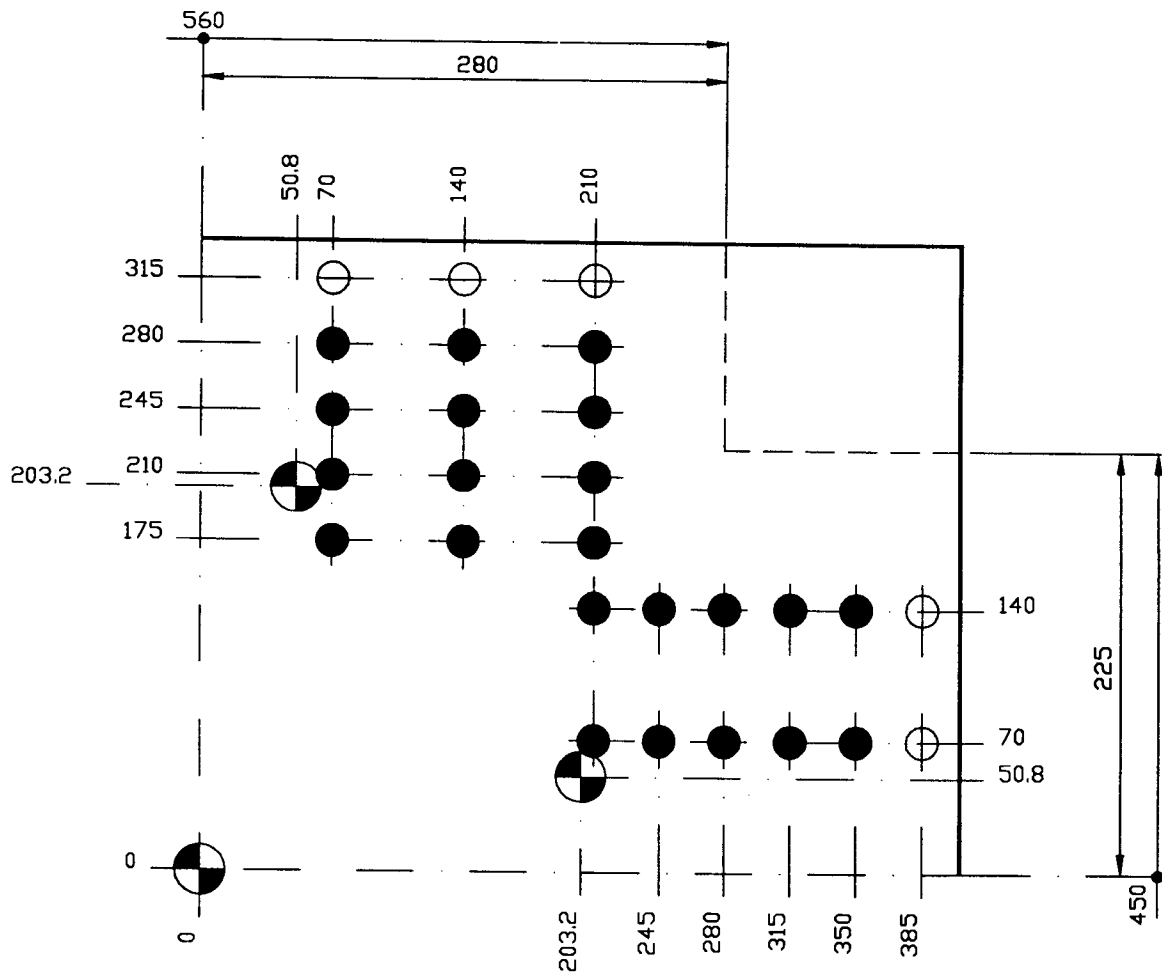
S 450/450



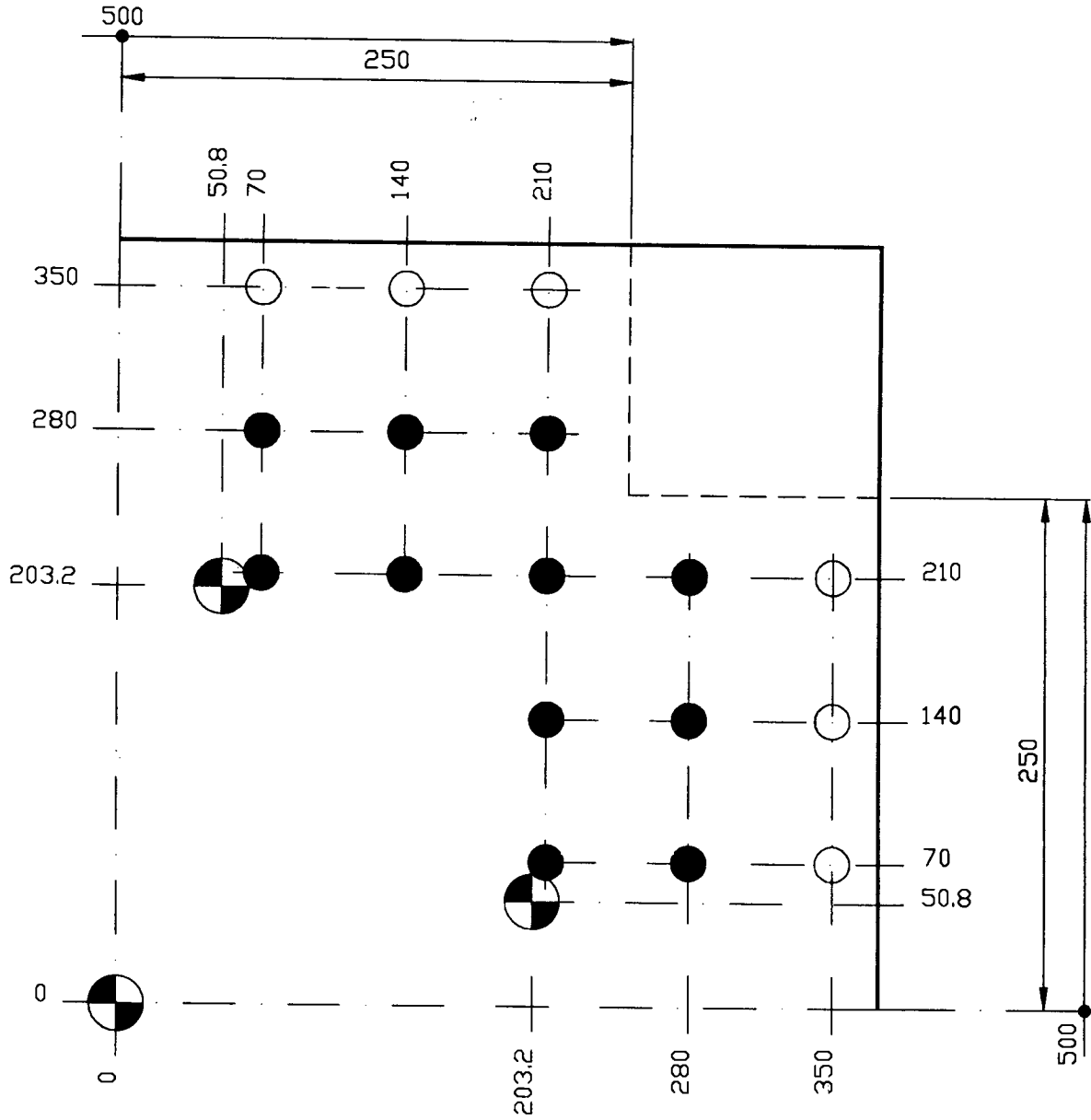
S 500/450



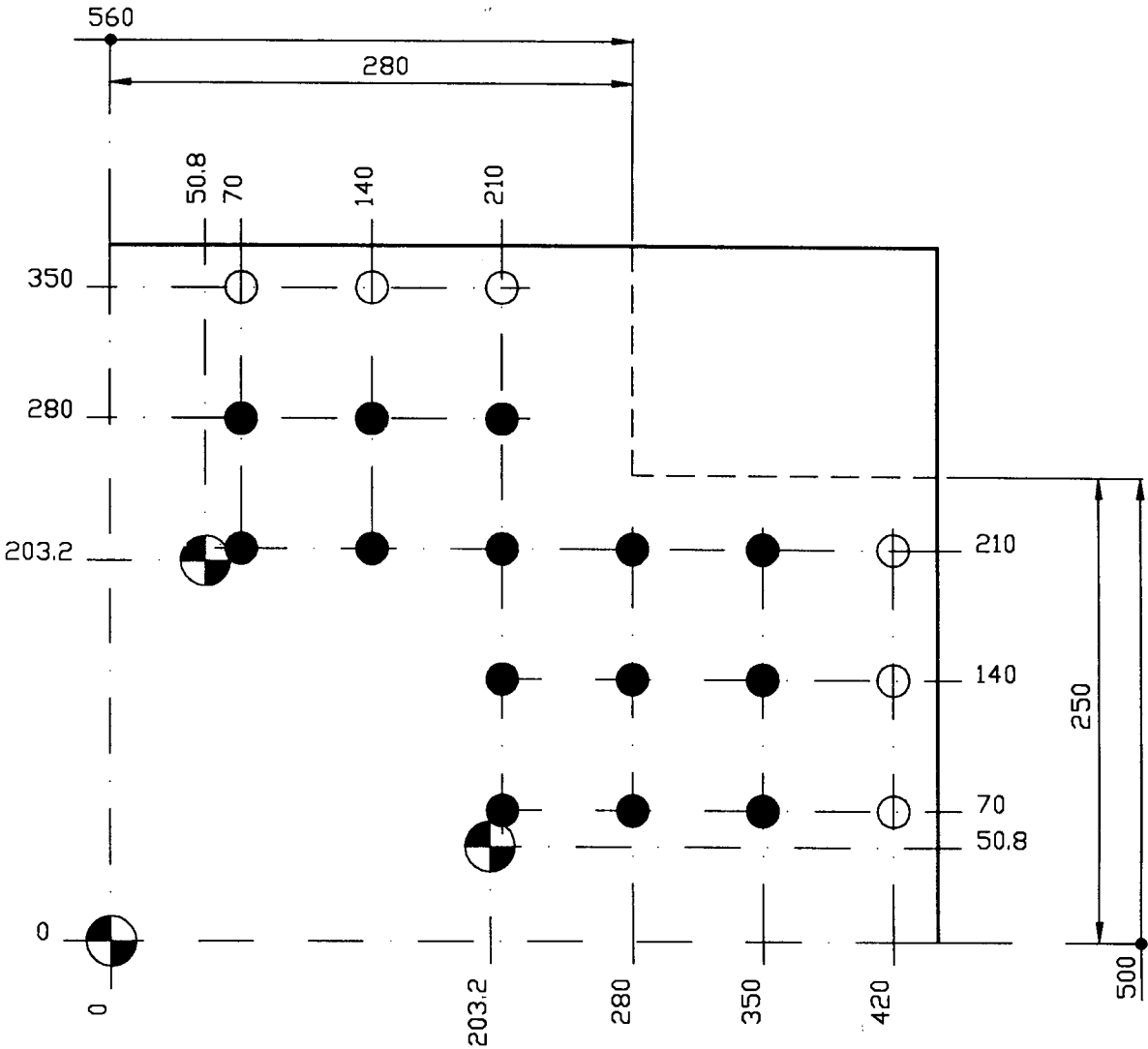
S 560/450



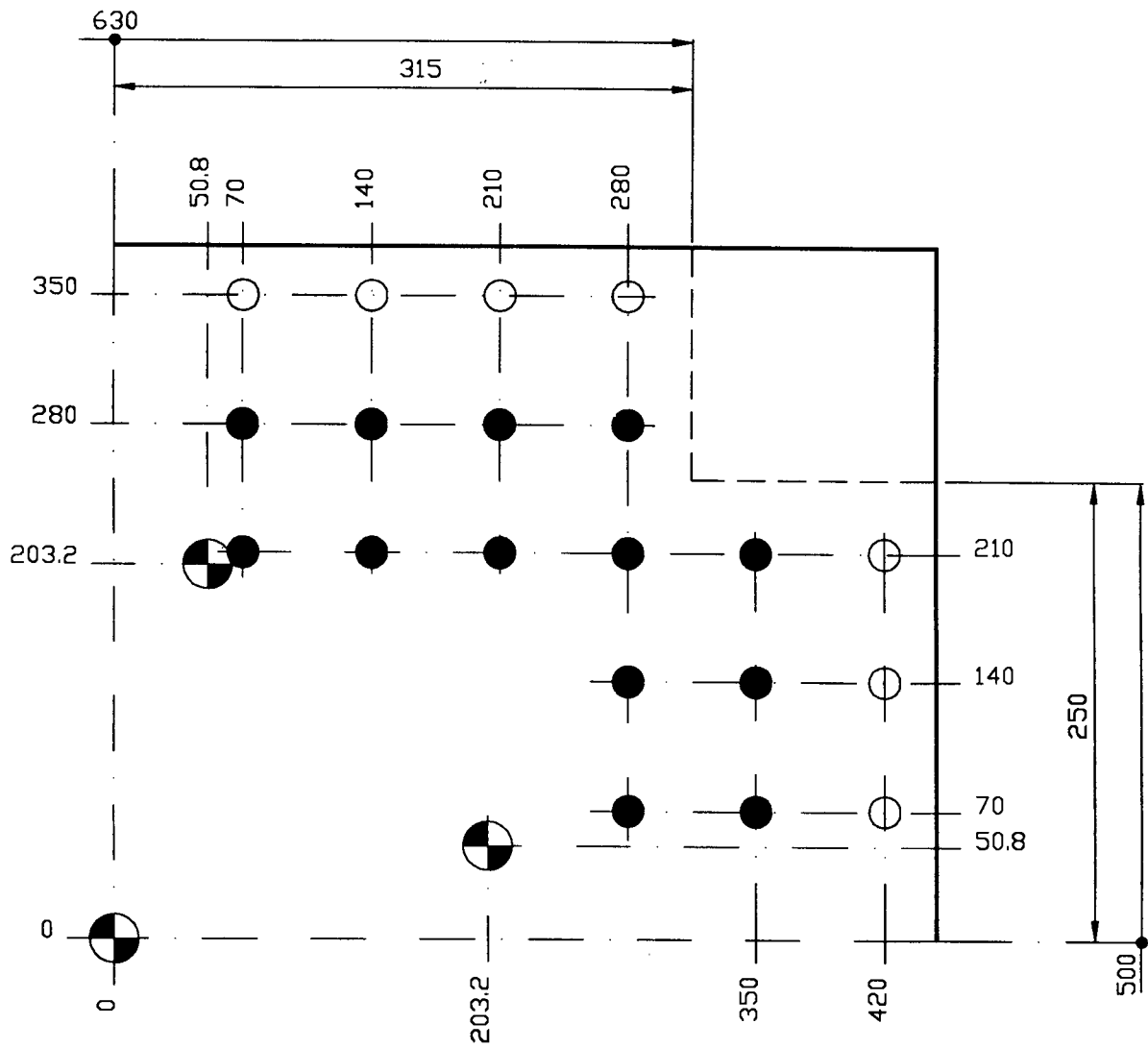
S 500/500



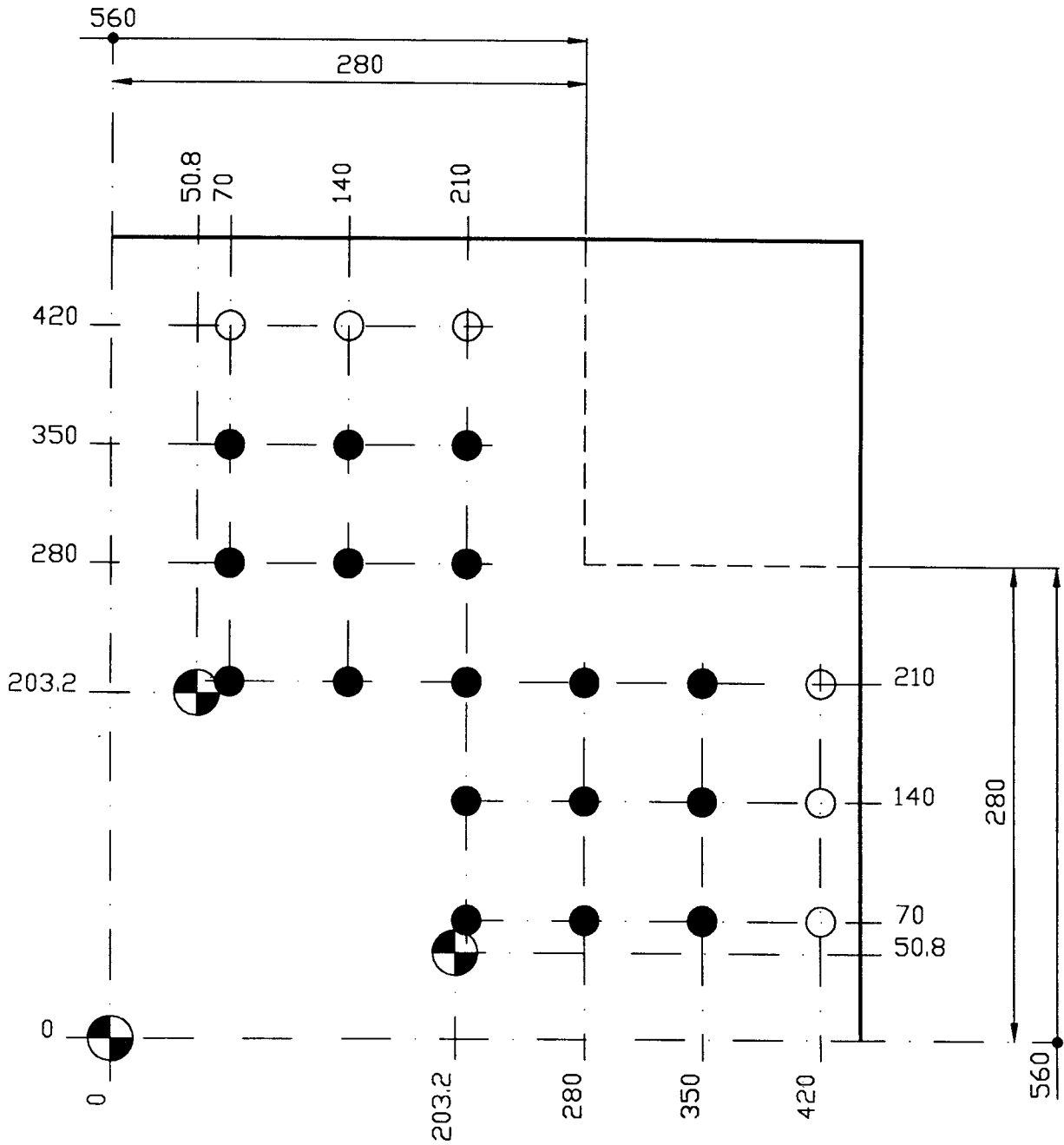
S 560/500



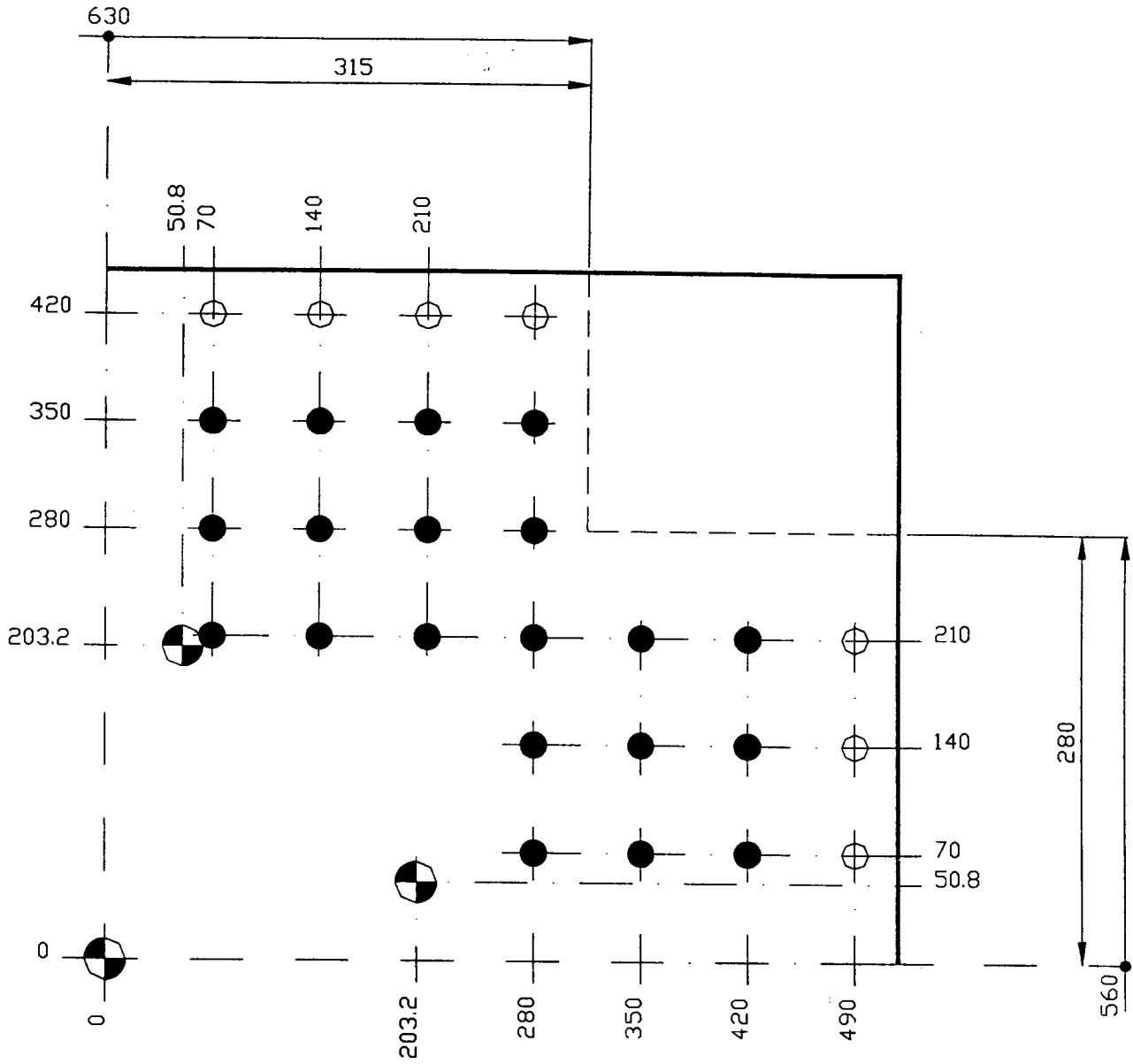
S 630/500



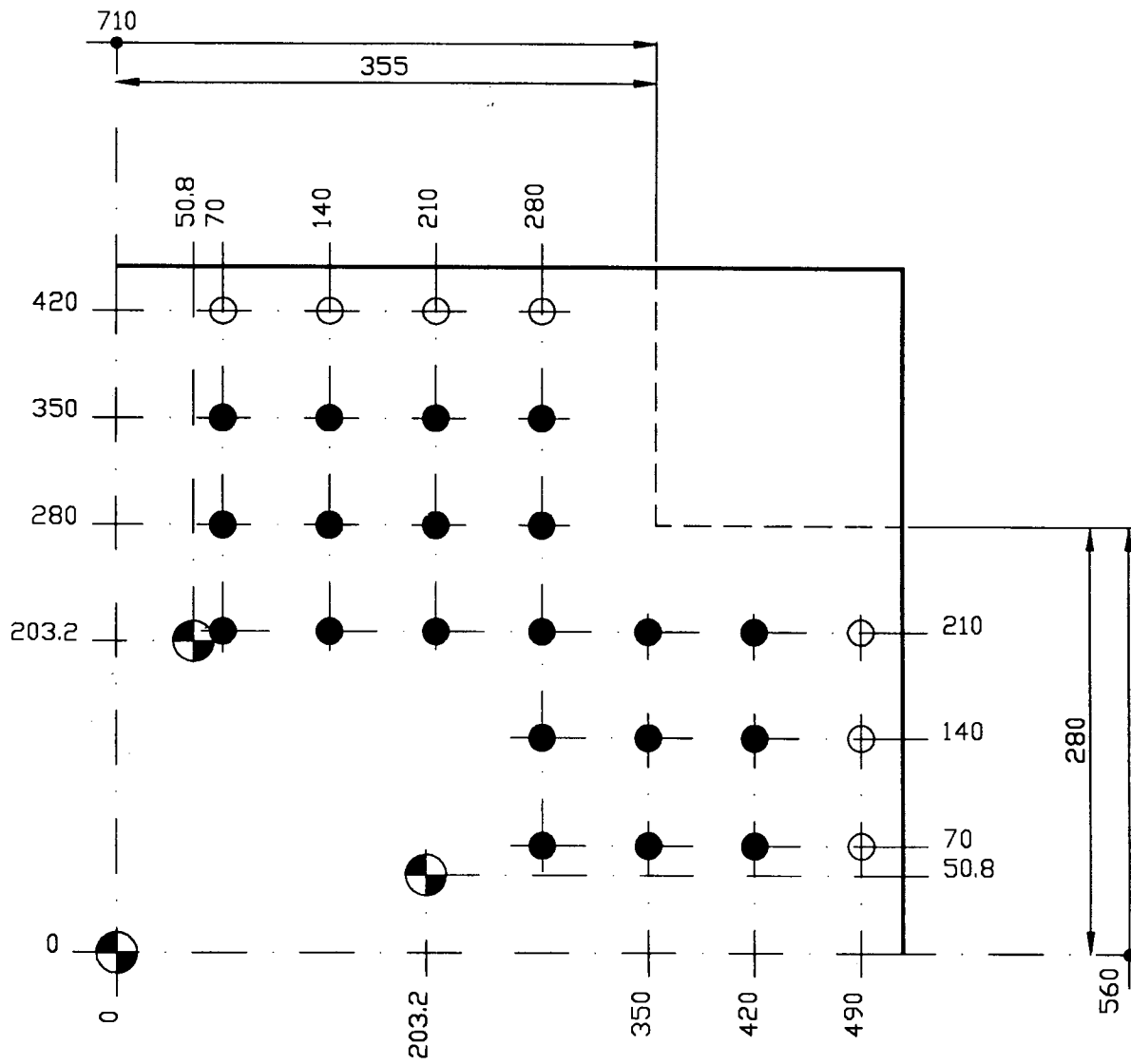
S 560/560



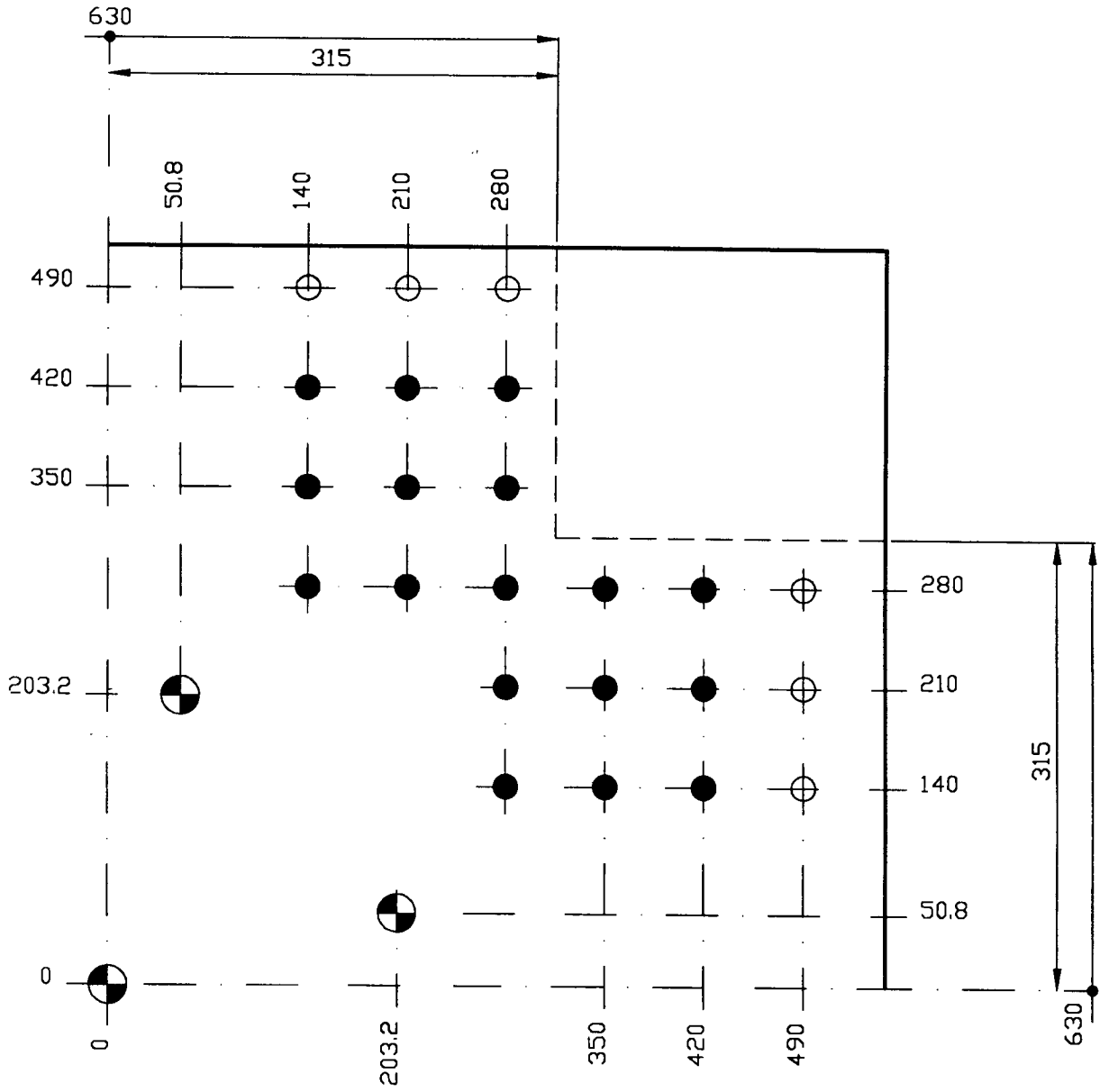
S 630/560



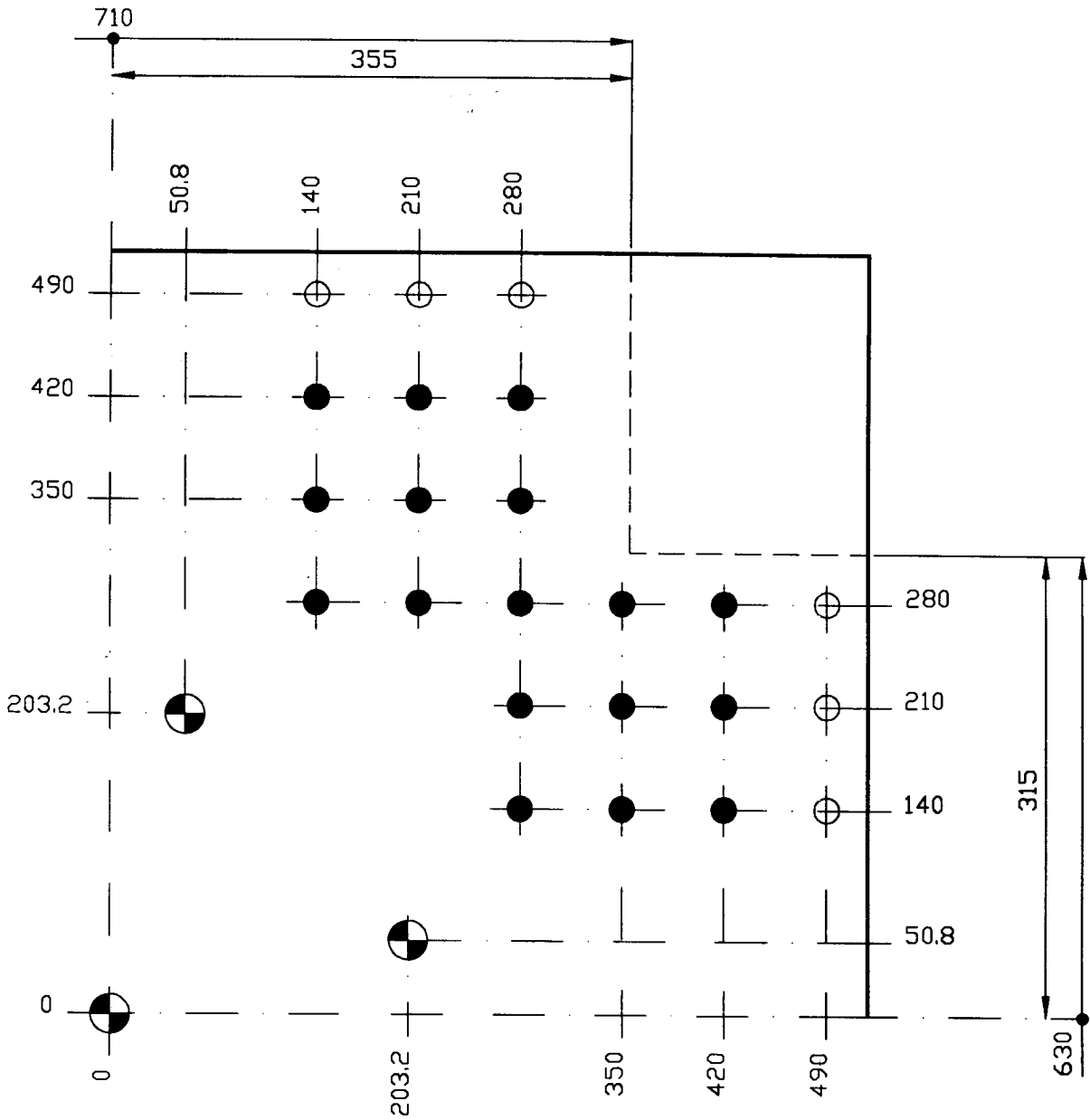
S 710/560



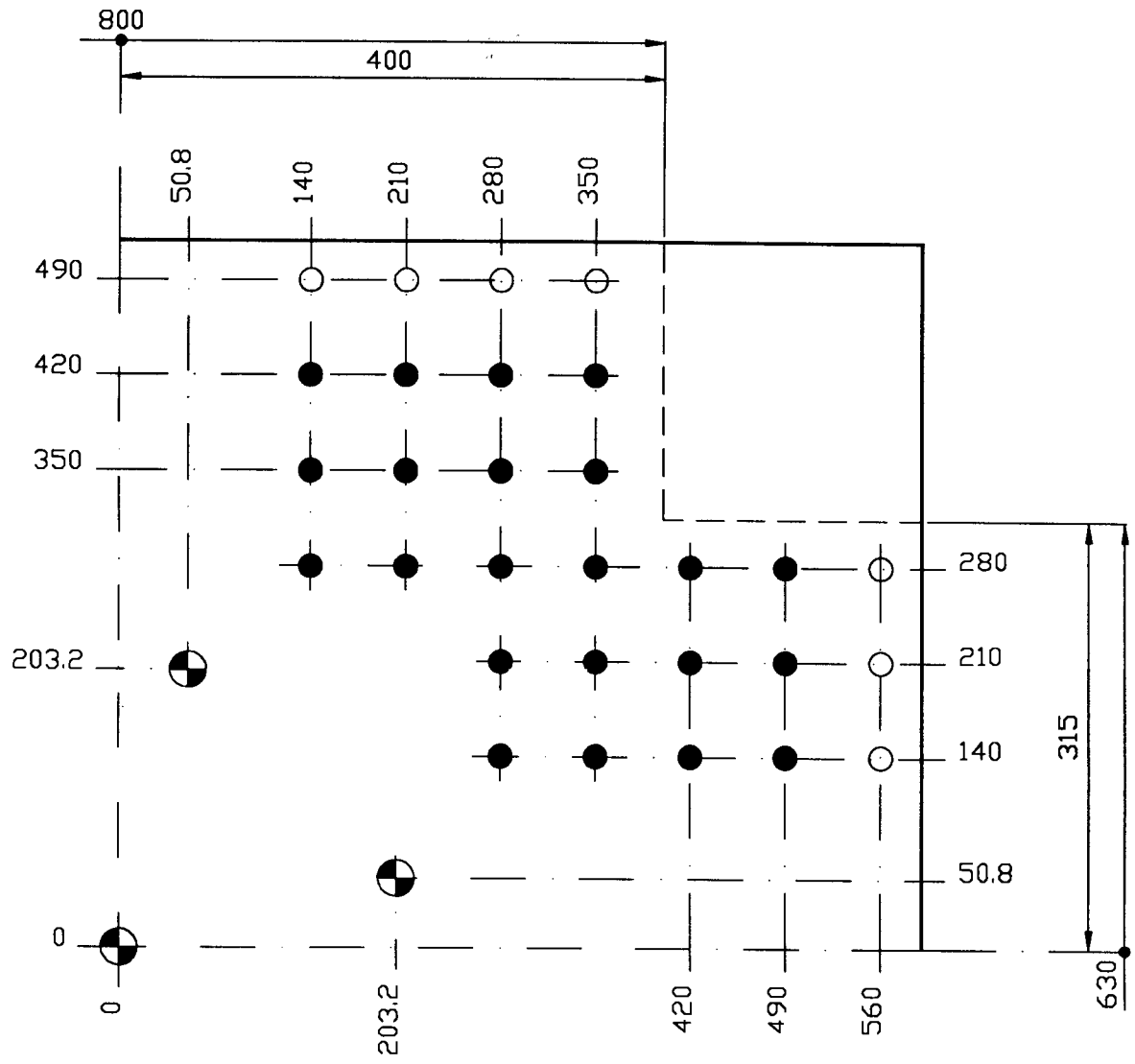
S 630/630



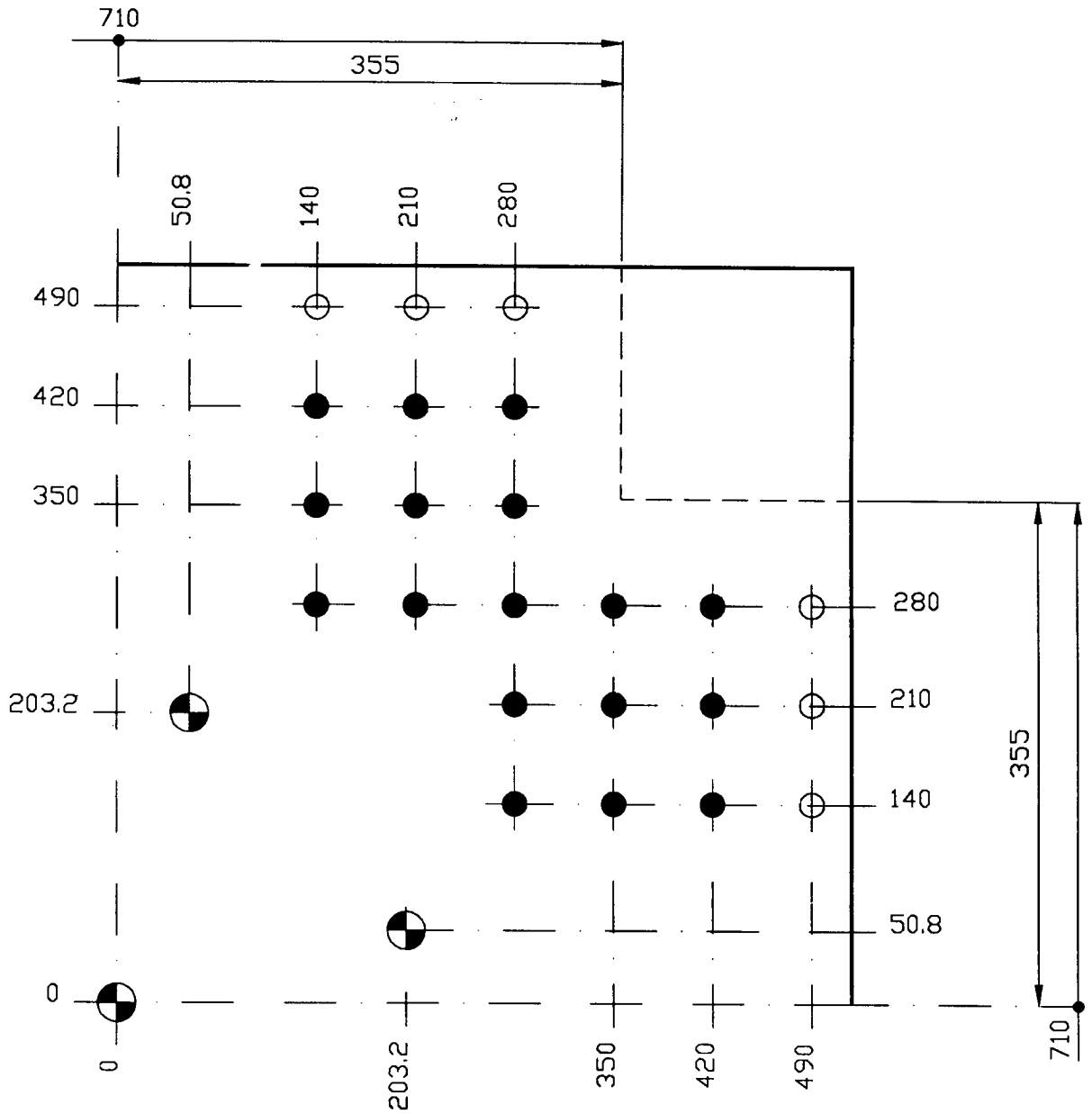
S 710/630



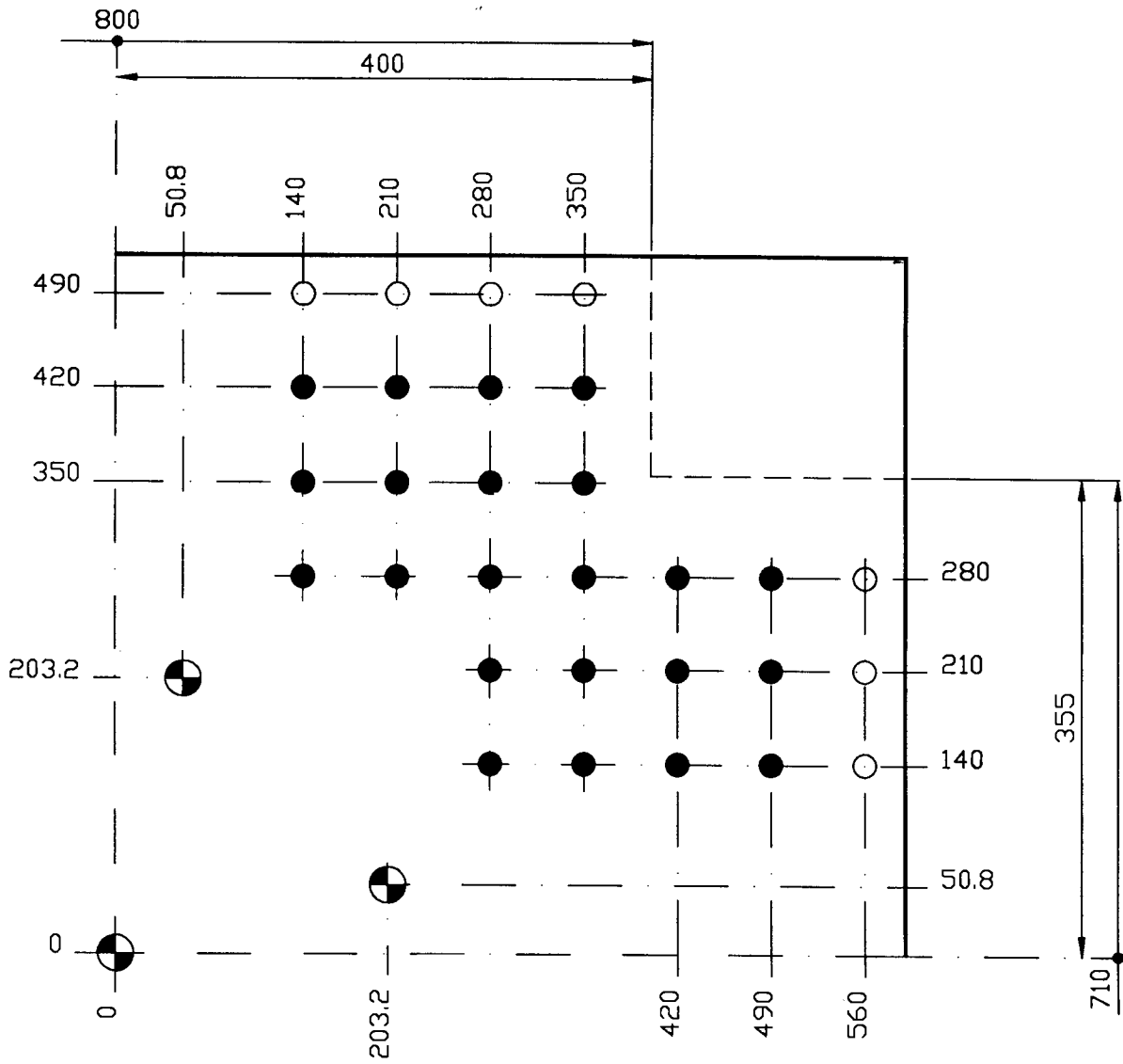
S 800/630



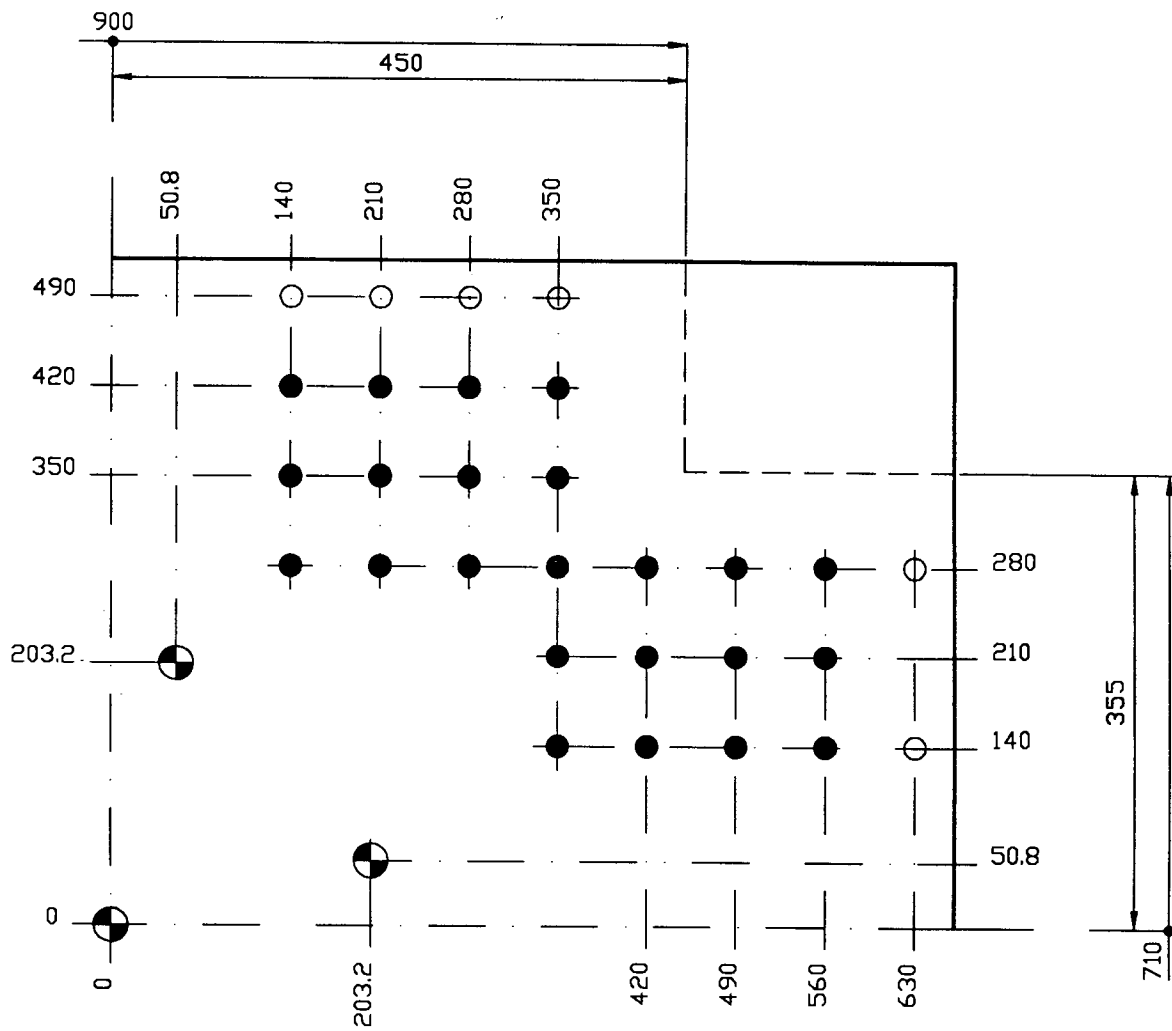
S 710/710



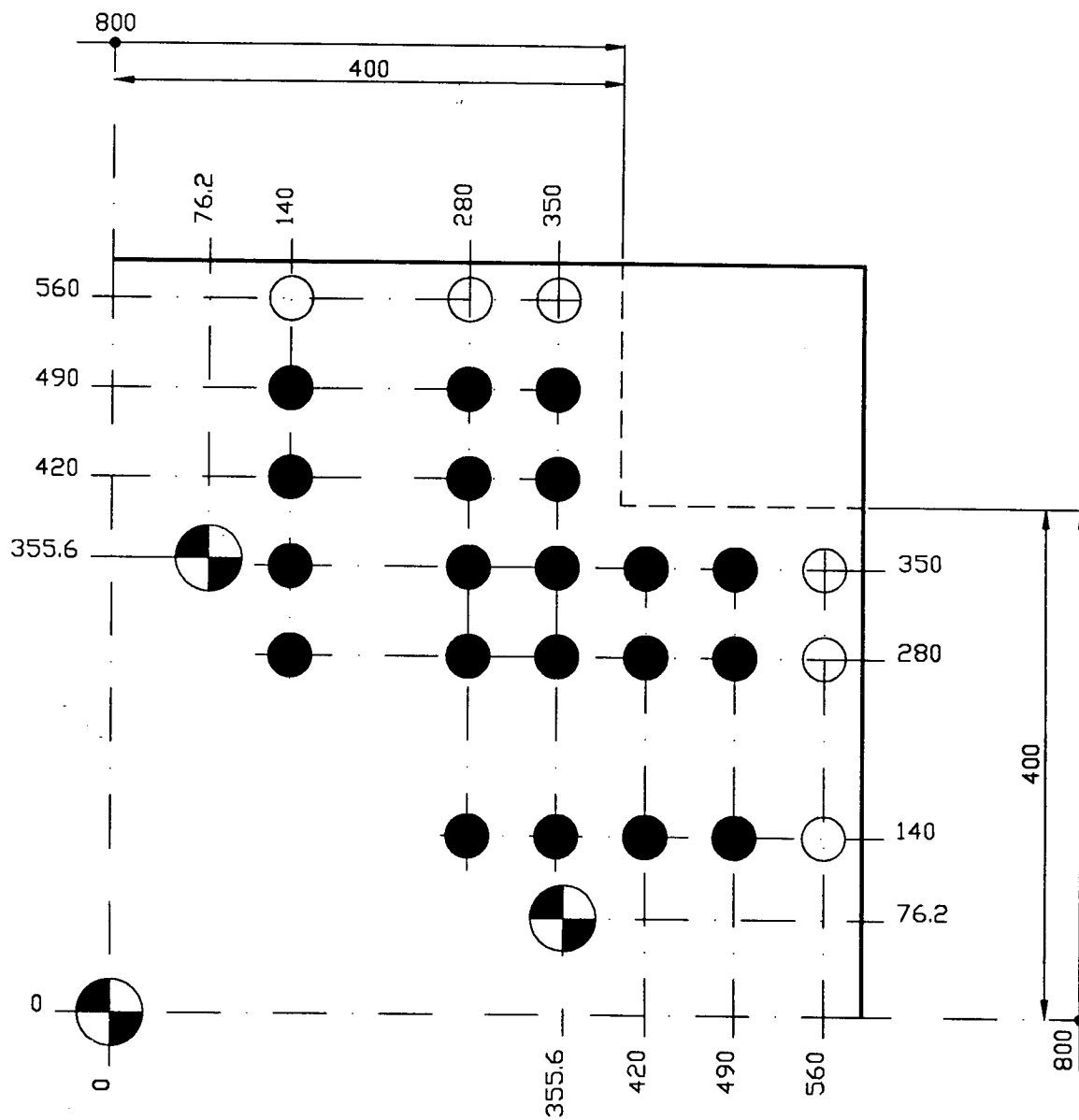
S 800/710



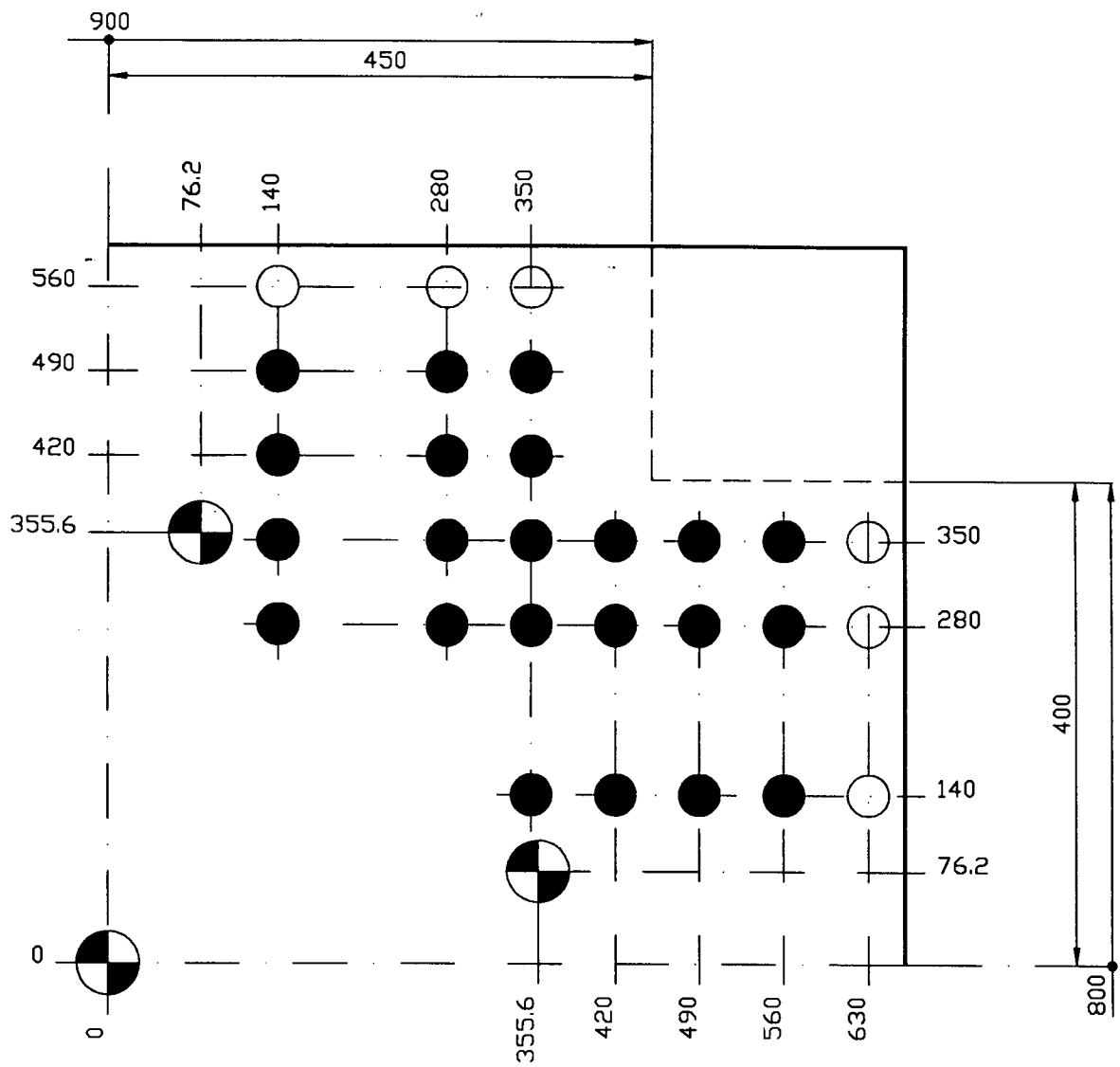
S 900/710



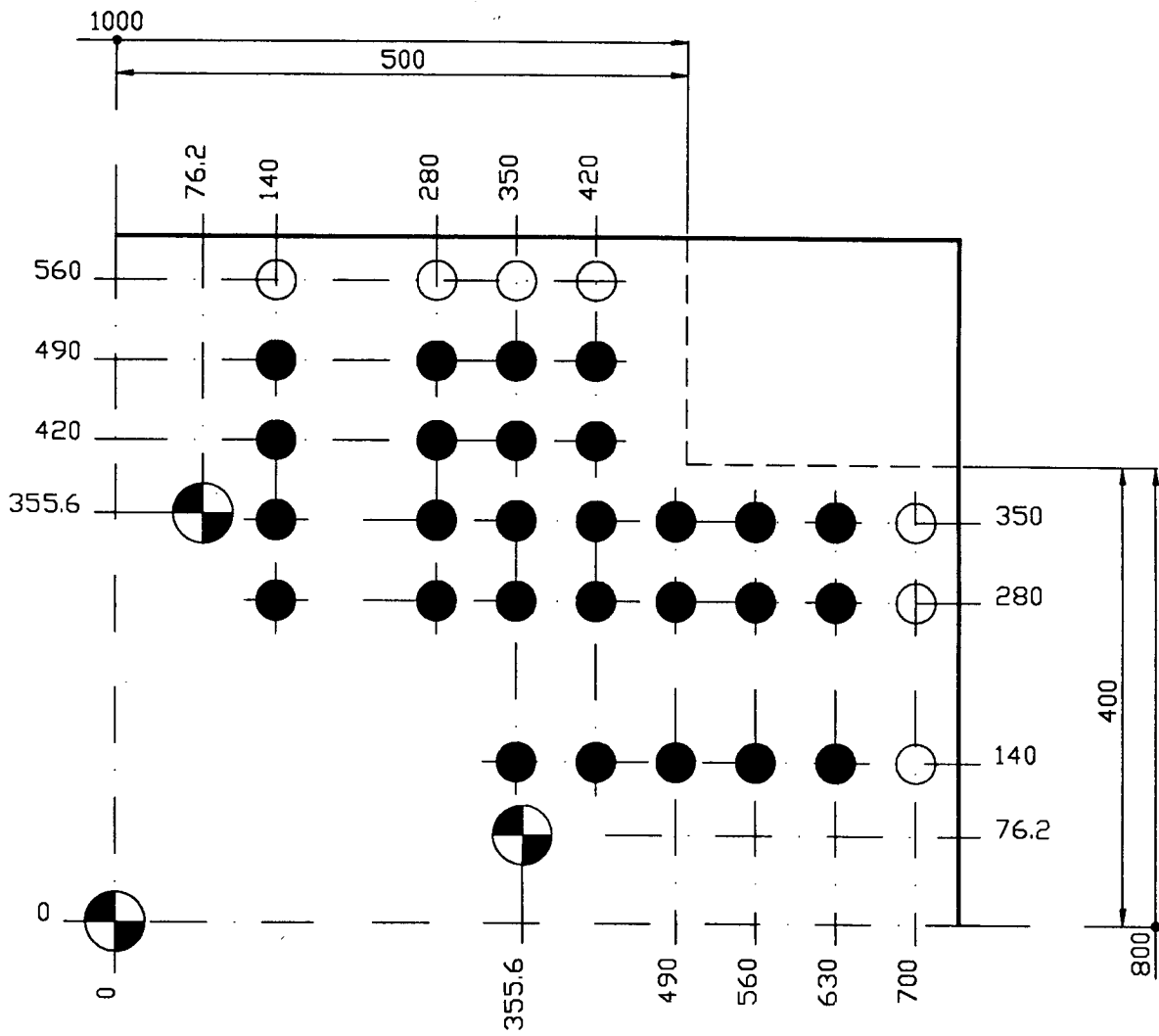
S 800/800



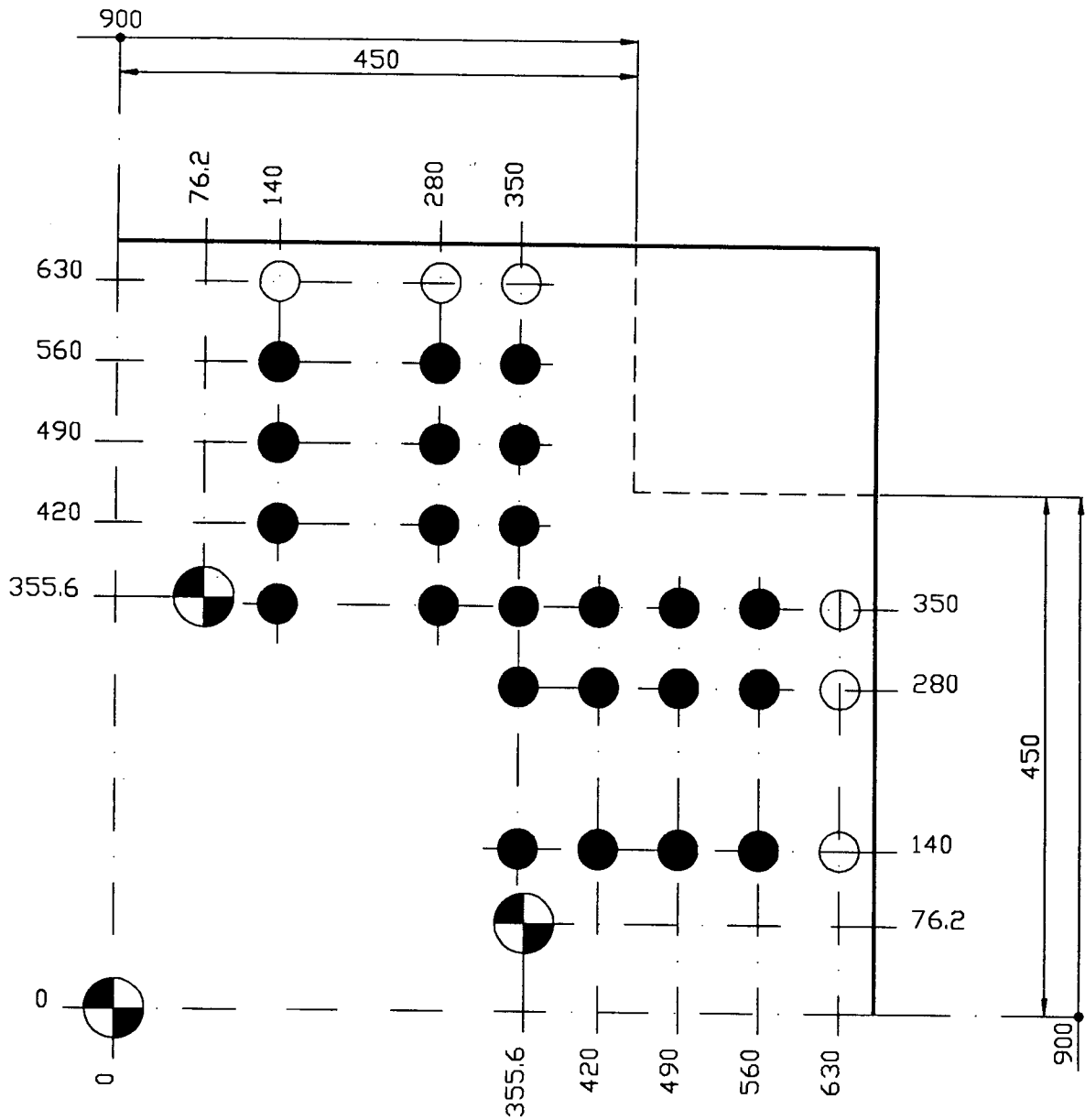
S 900/800



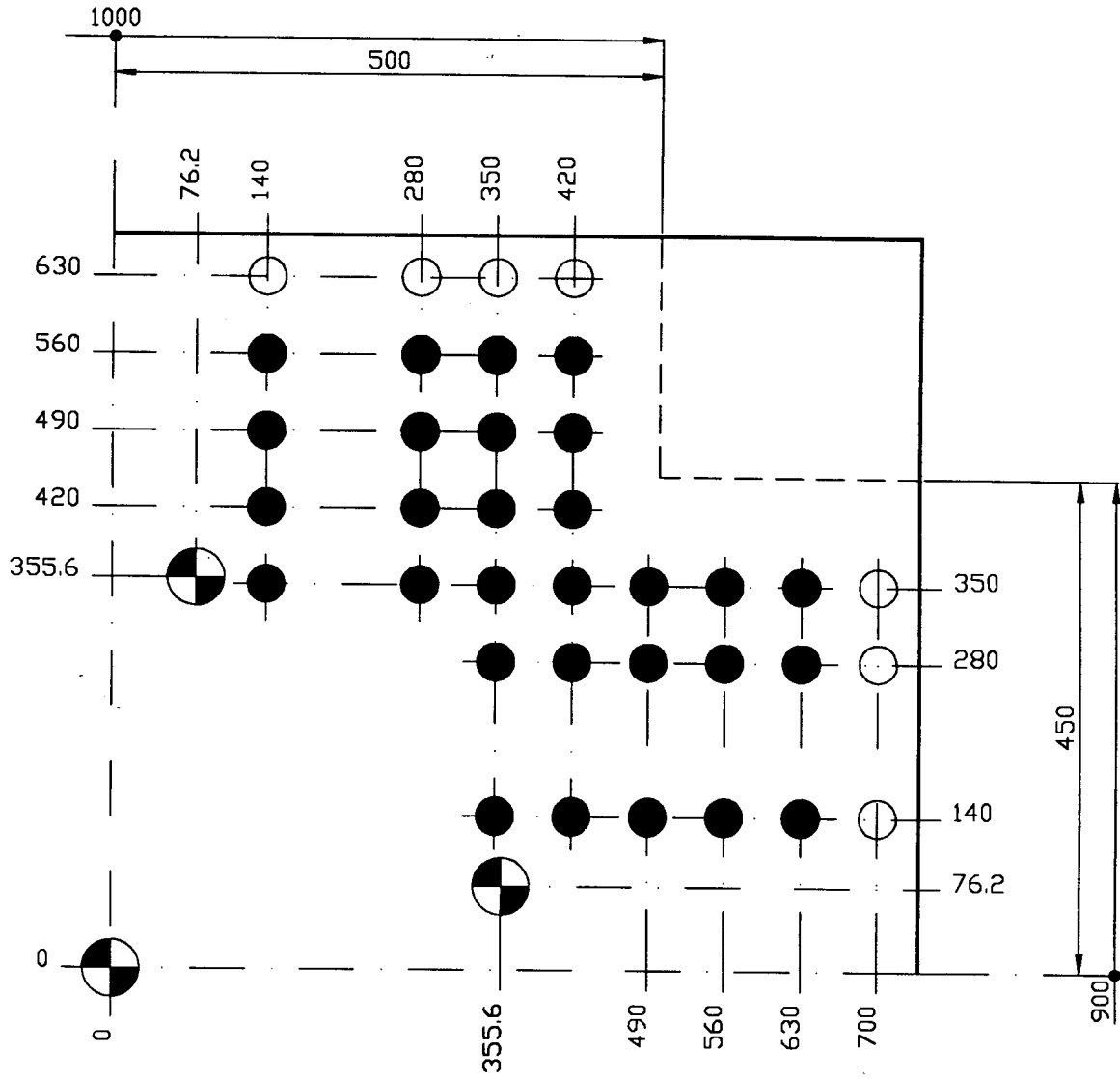
S 1000/800



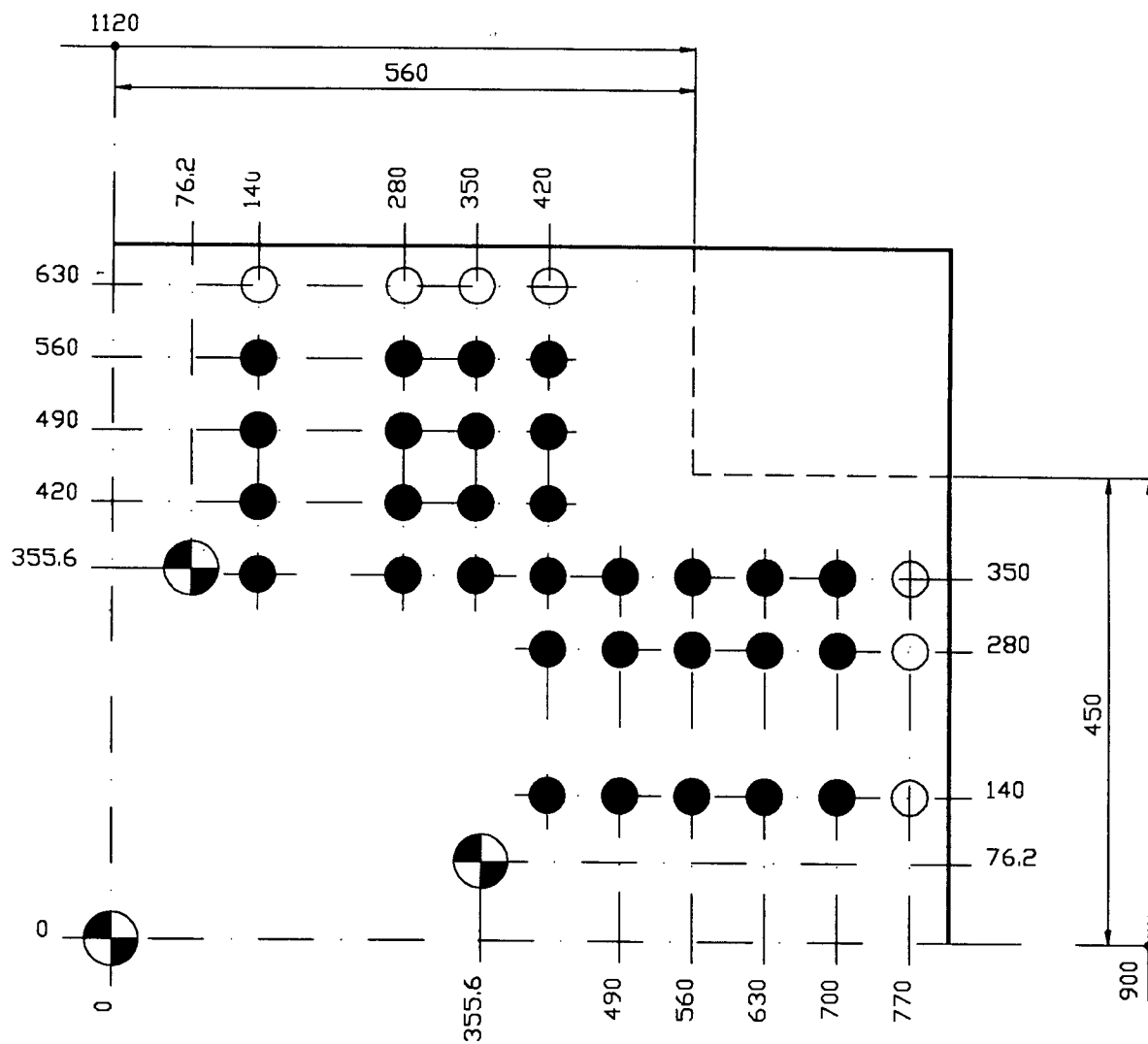
S 900/900



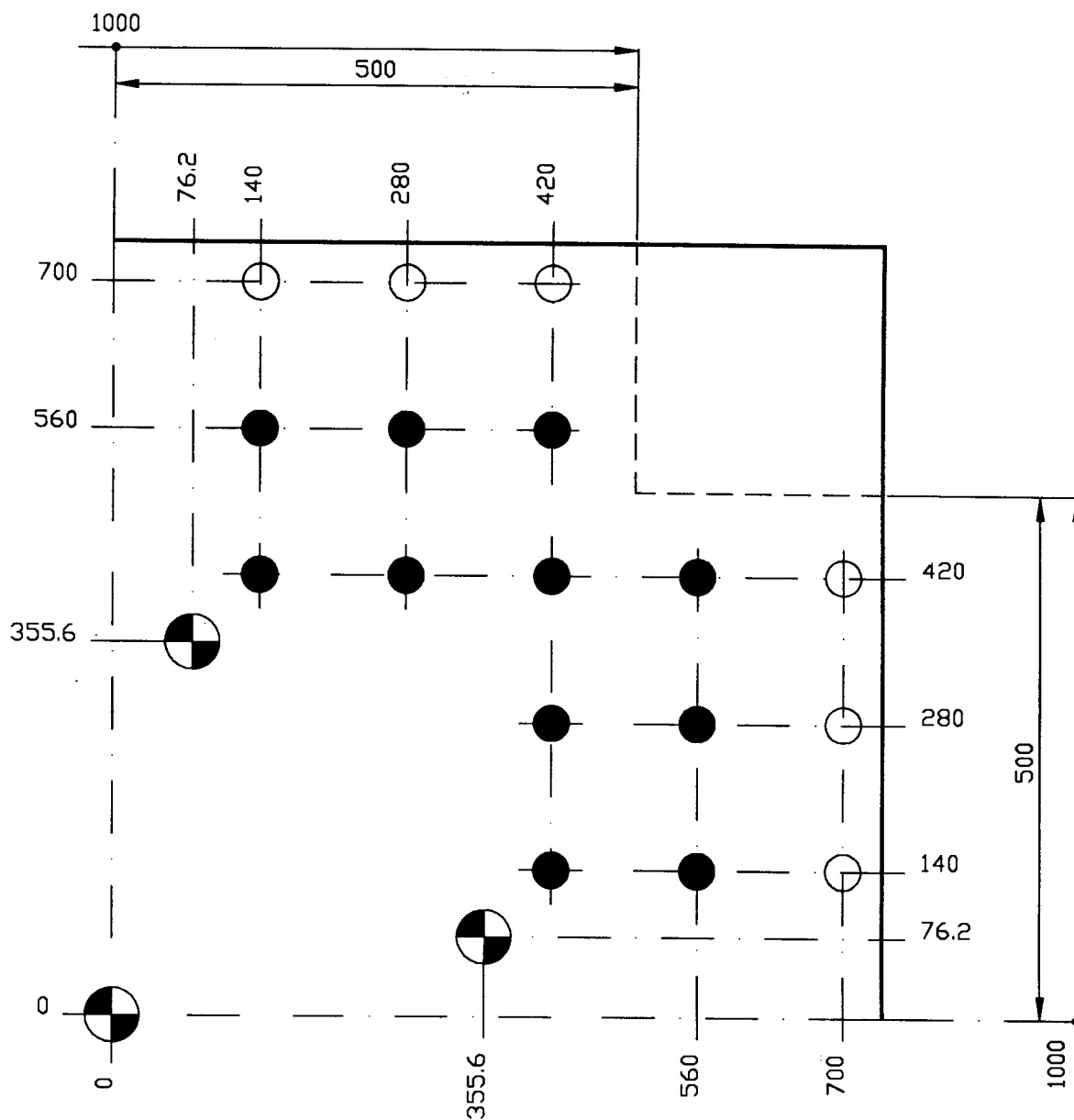
S 1000/900



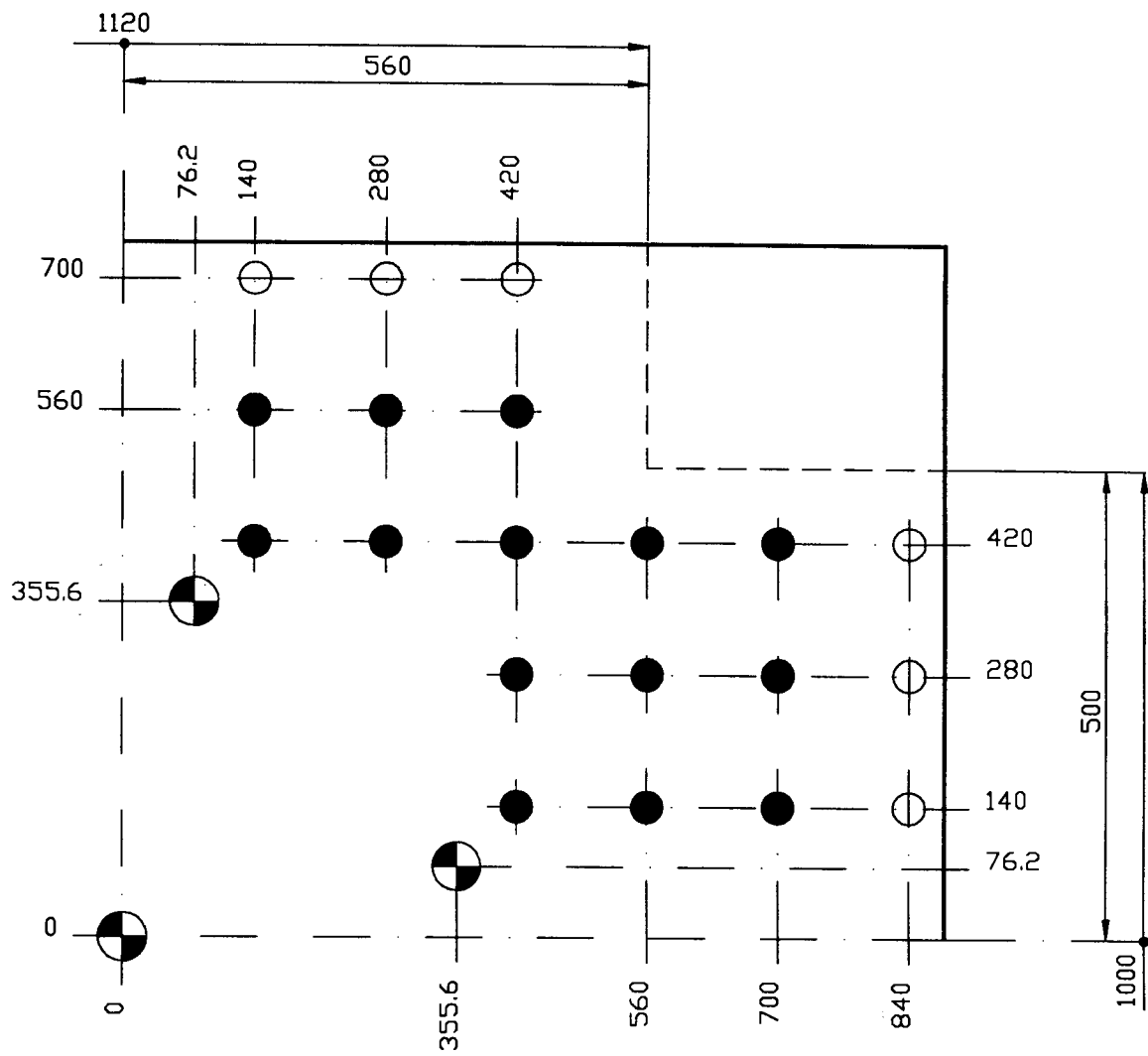
S 1120/900



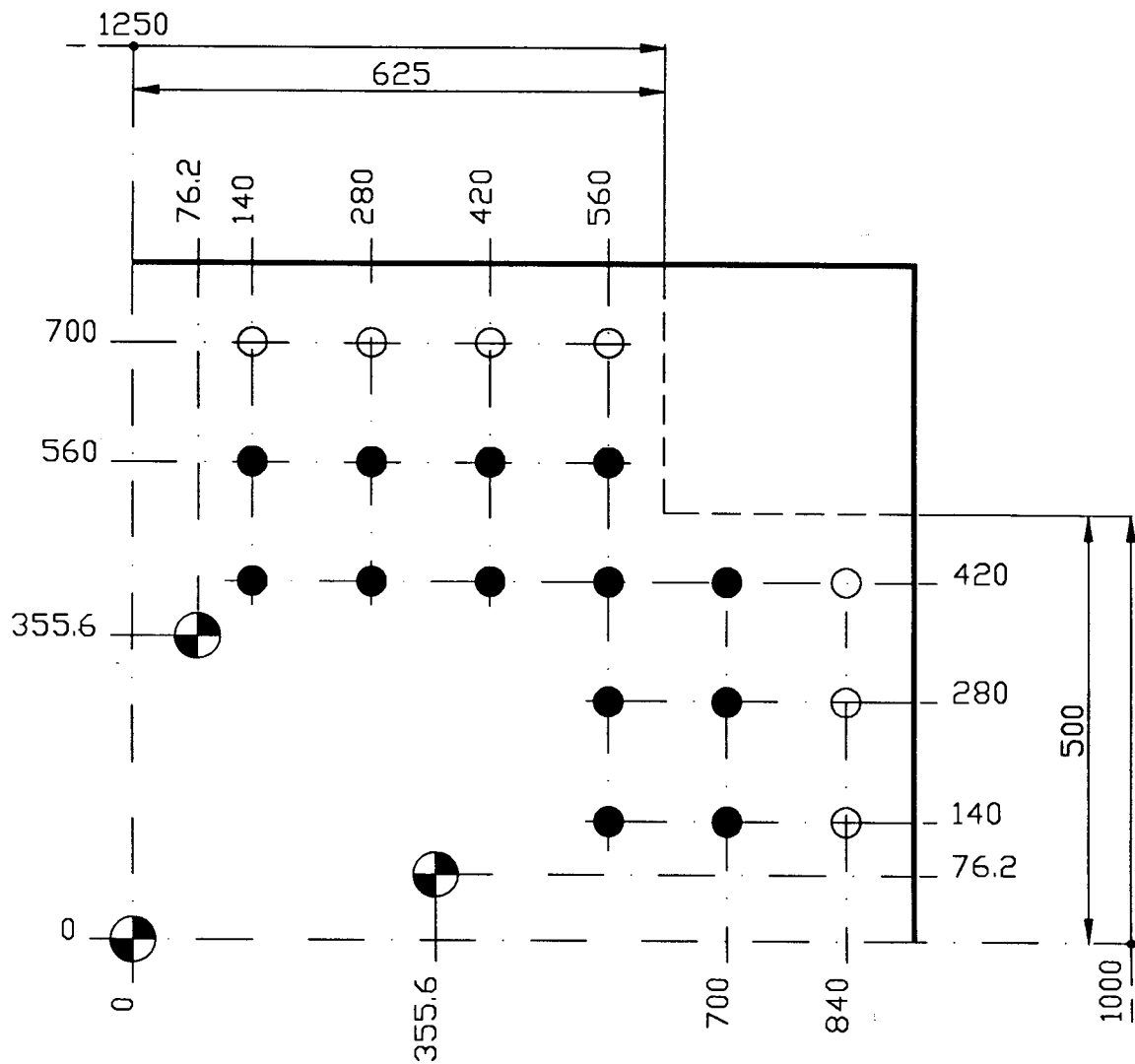
S 1000/1000



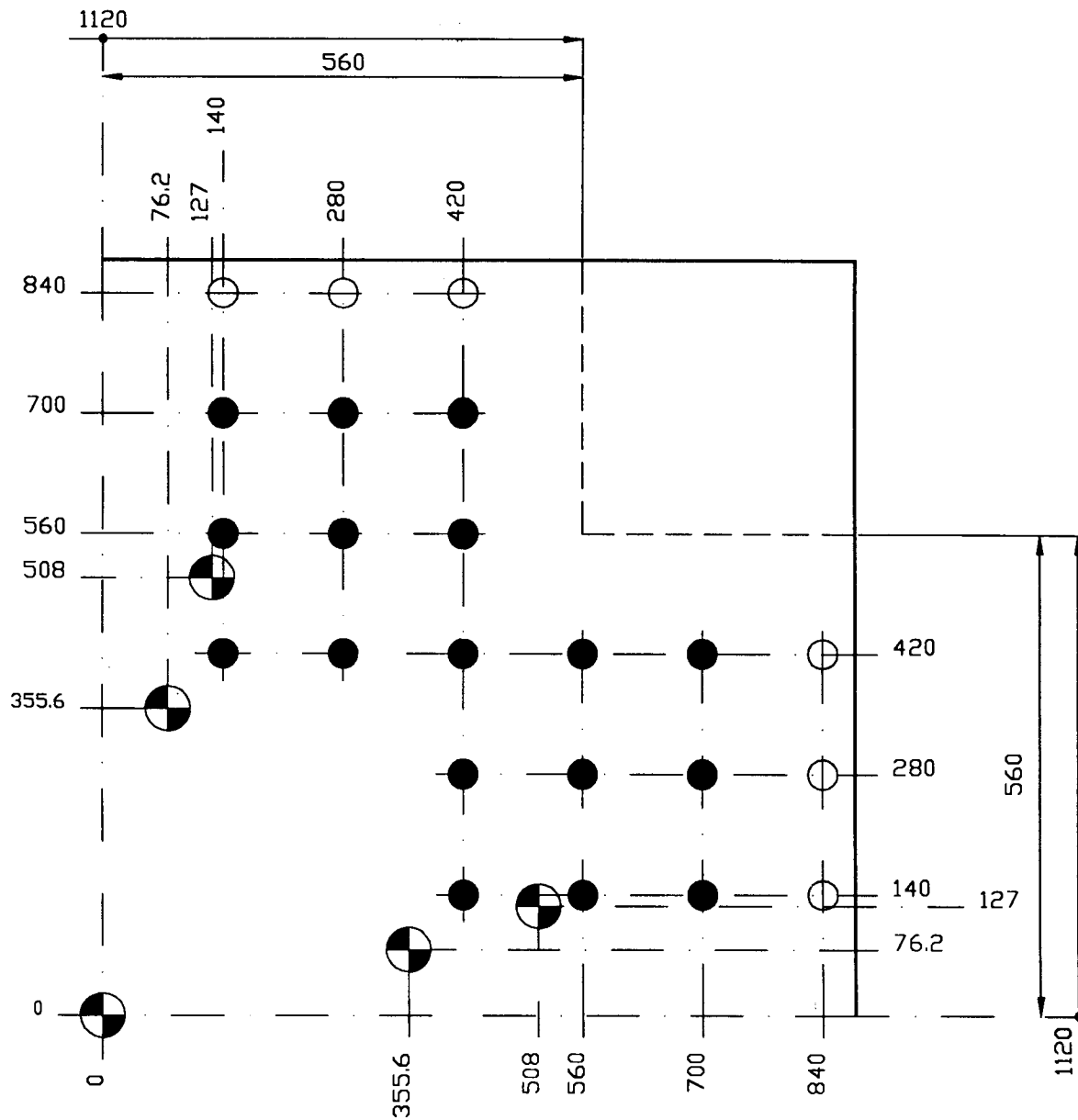
S 1120/1000



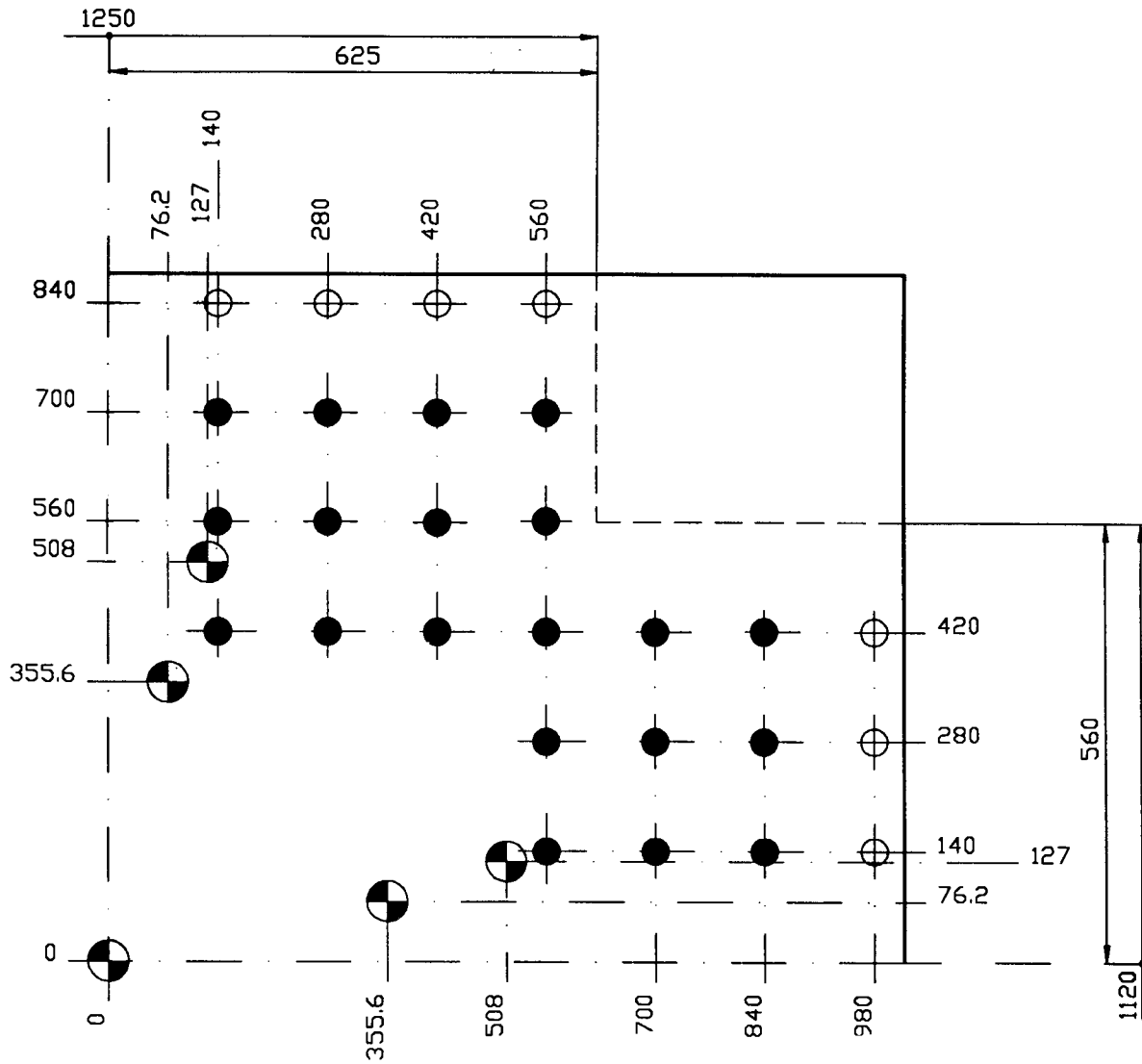
S 1250/1000



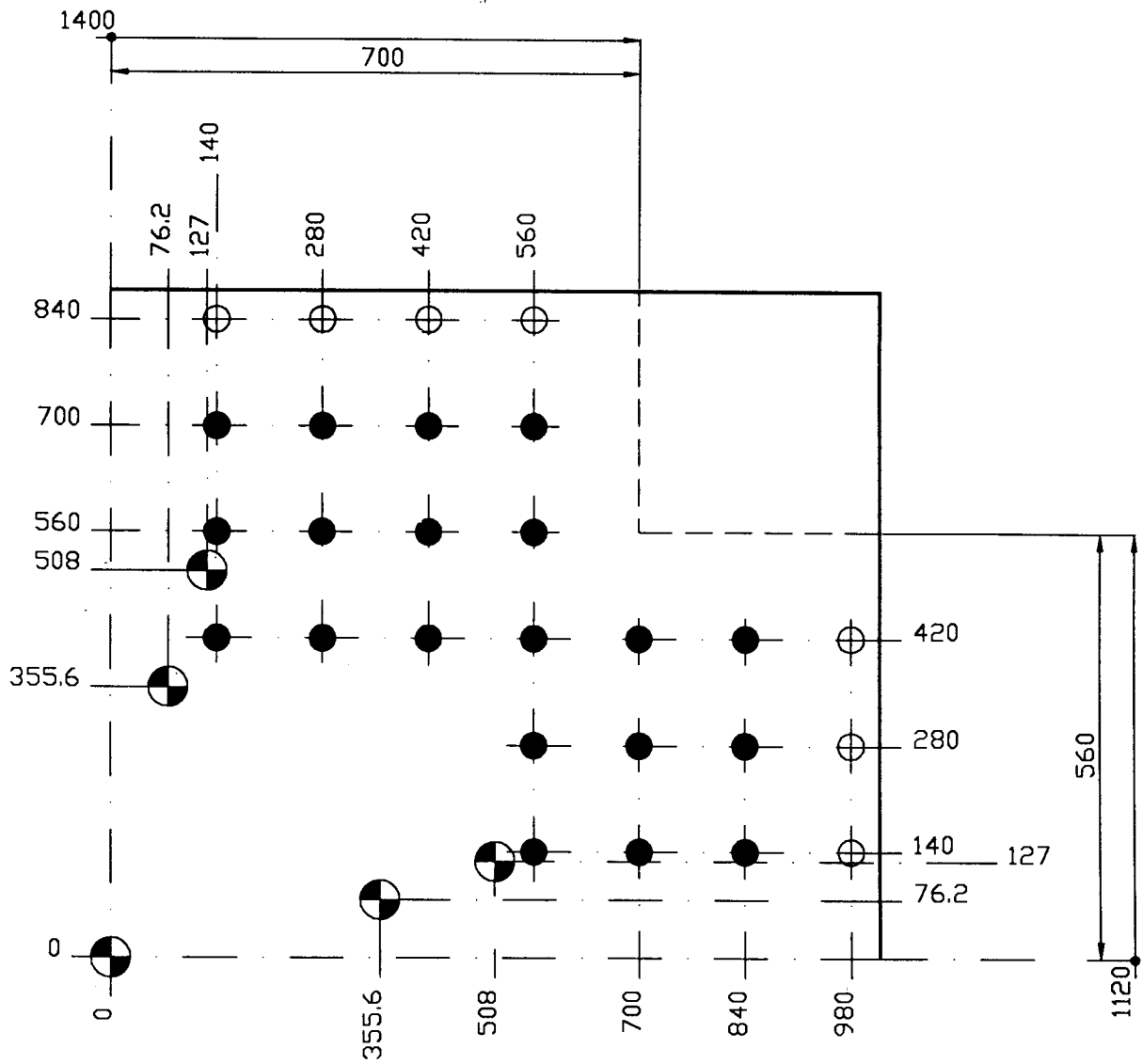
S 1120/1120



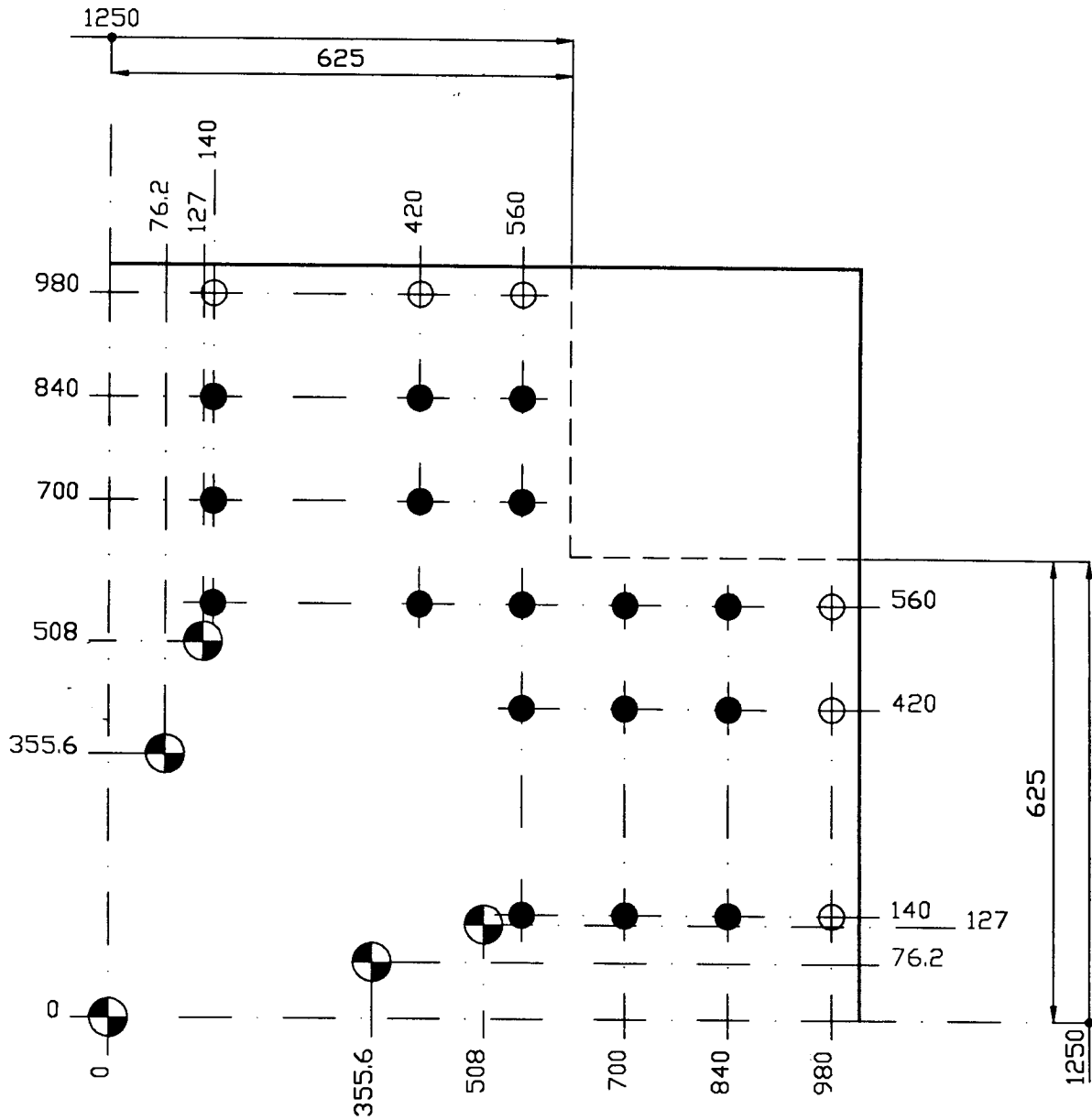
S 1250/1120



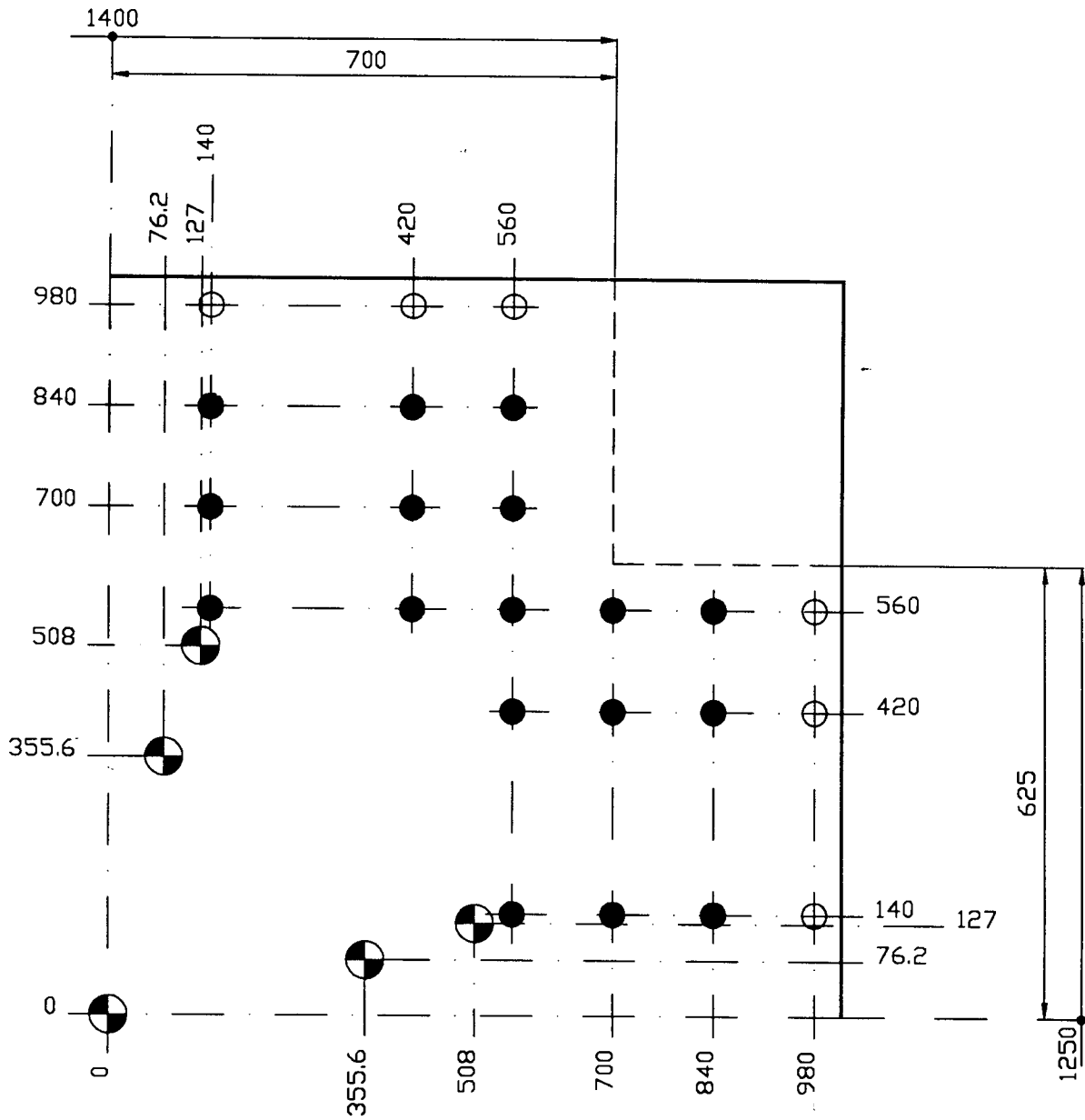
S 1400/1120



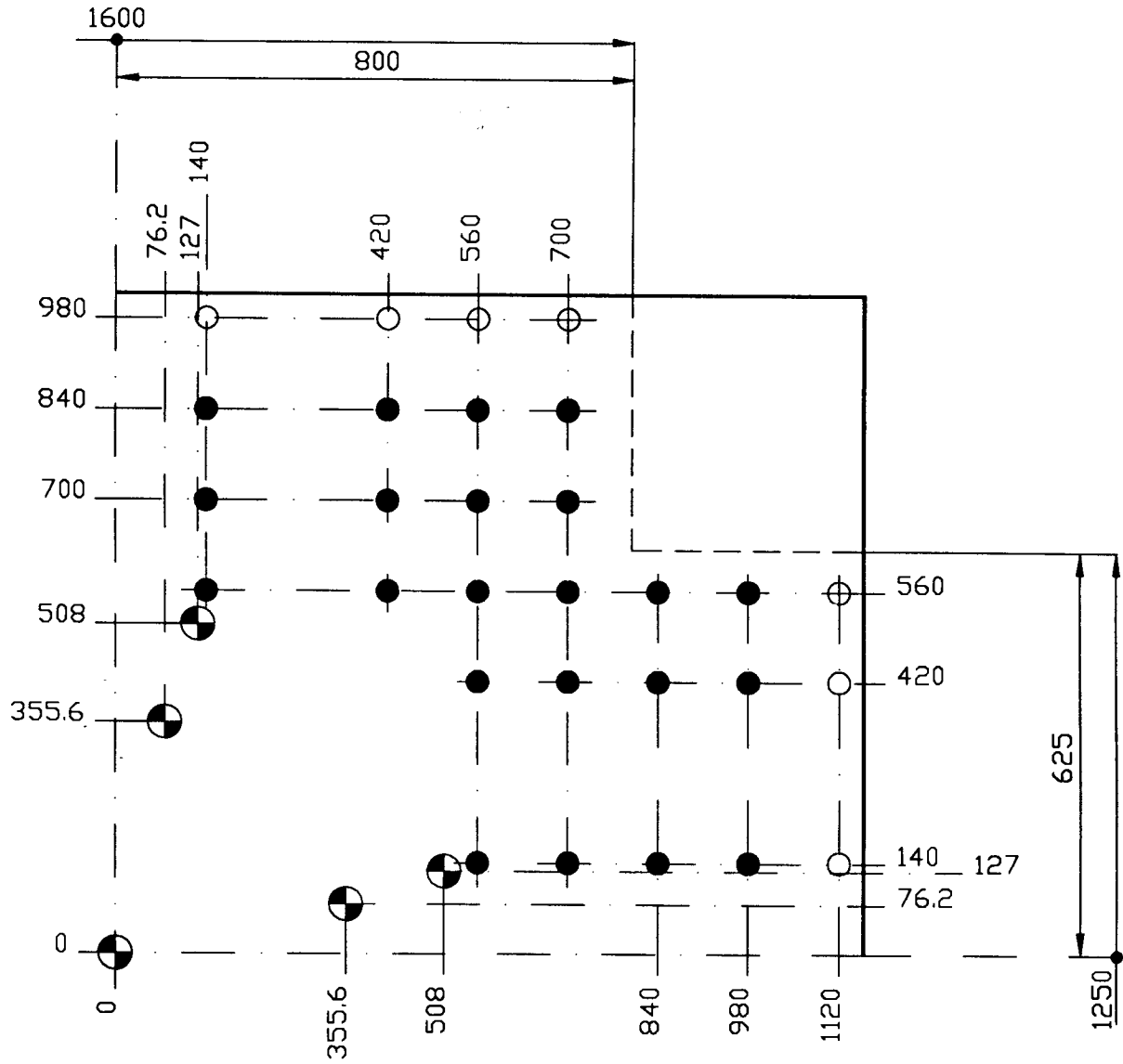
S 1250/1250



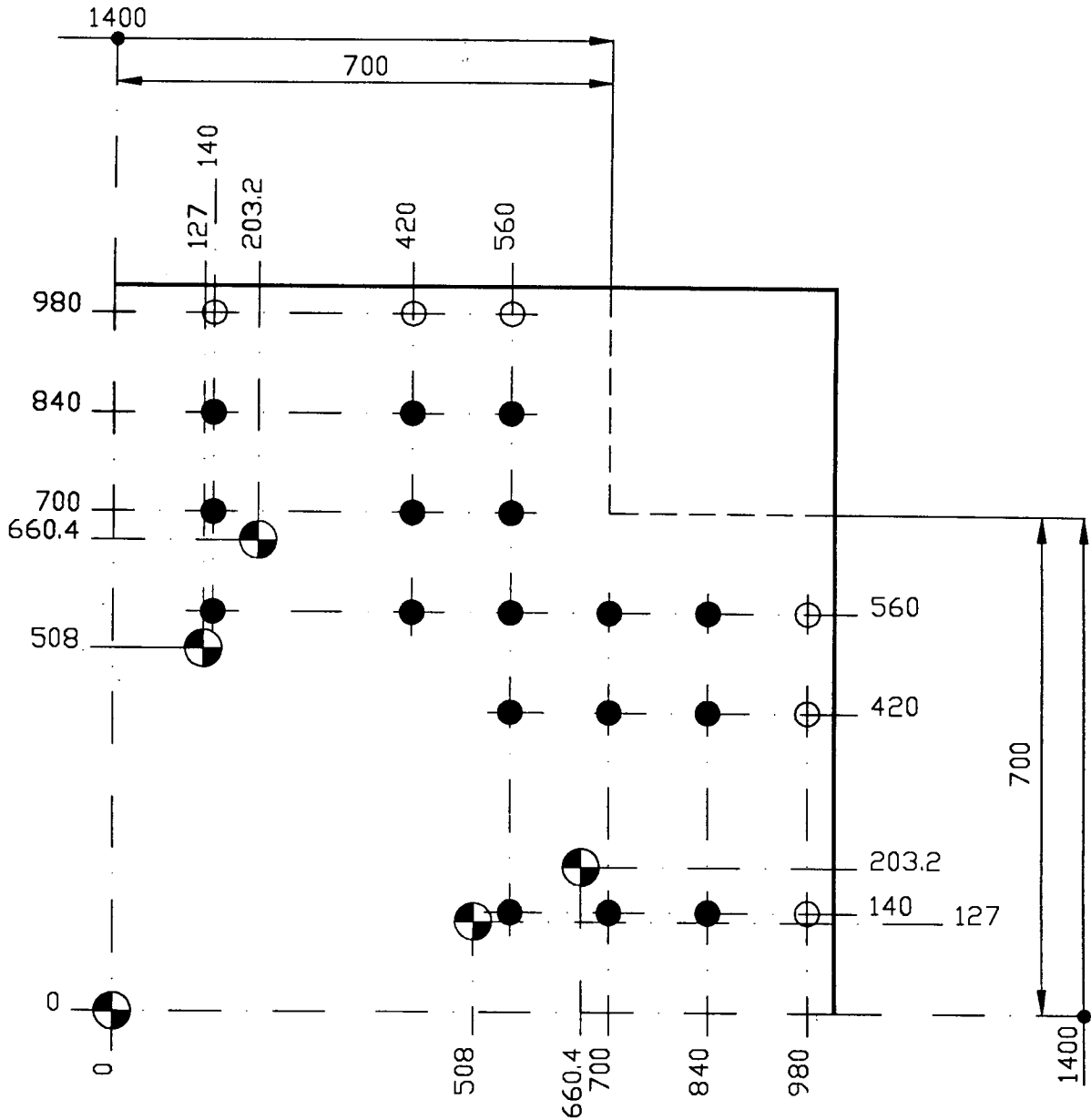
S 1400/1250



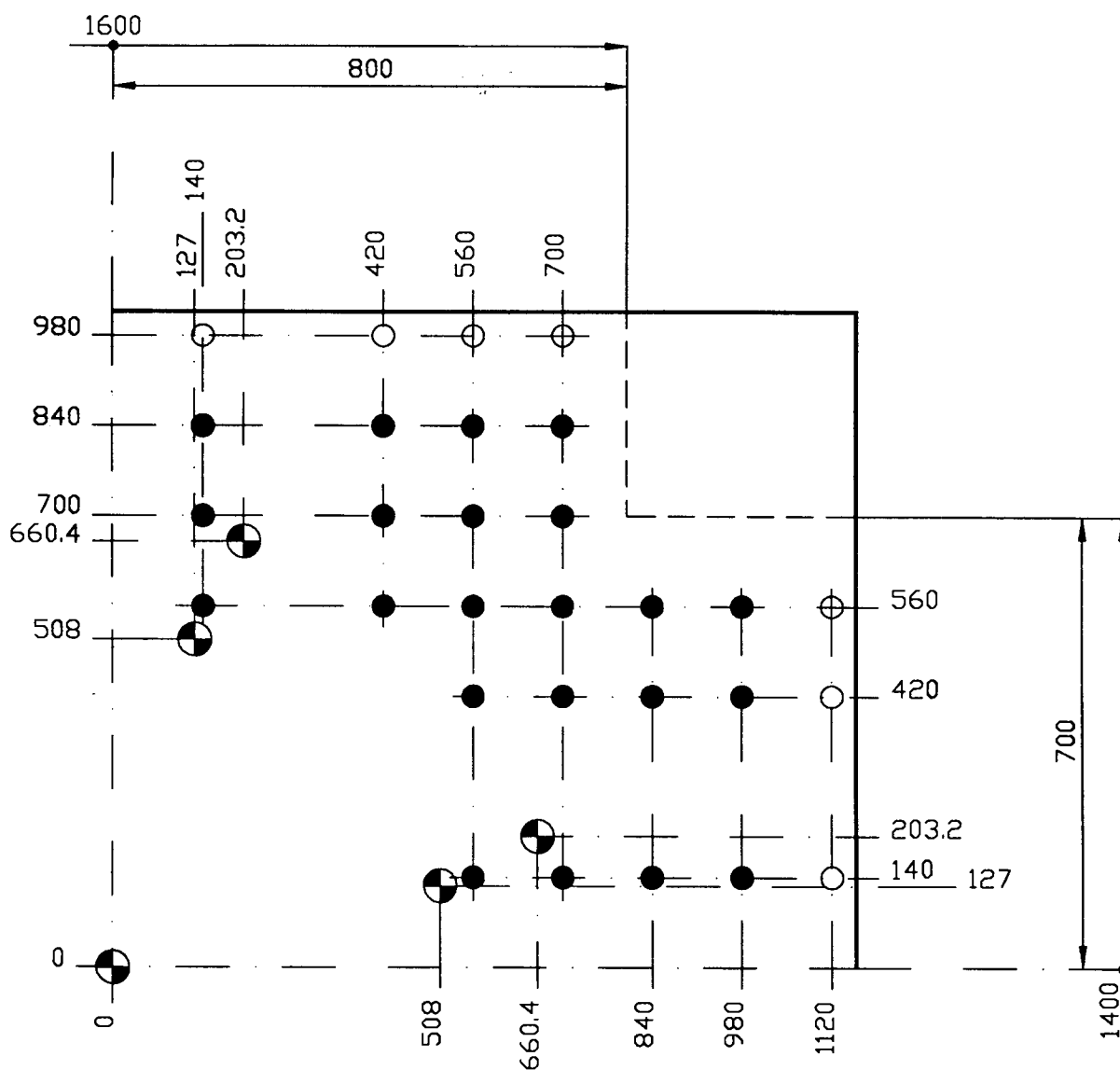
S 1600/1250



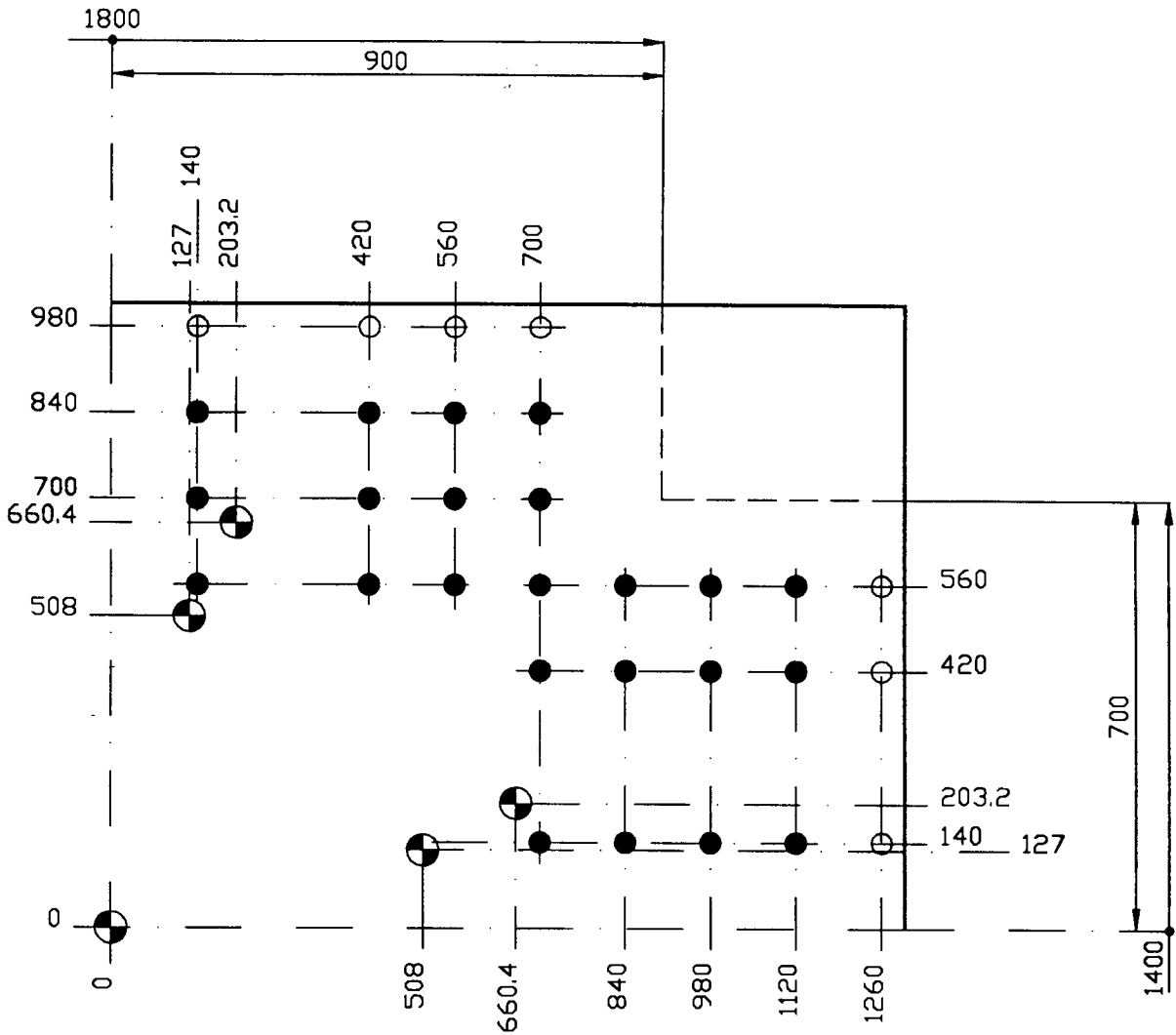
S 1400/1400



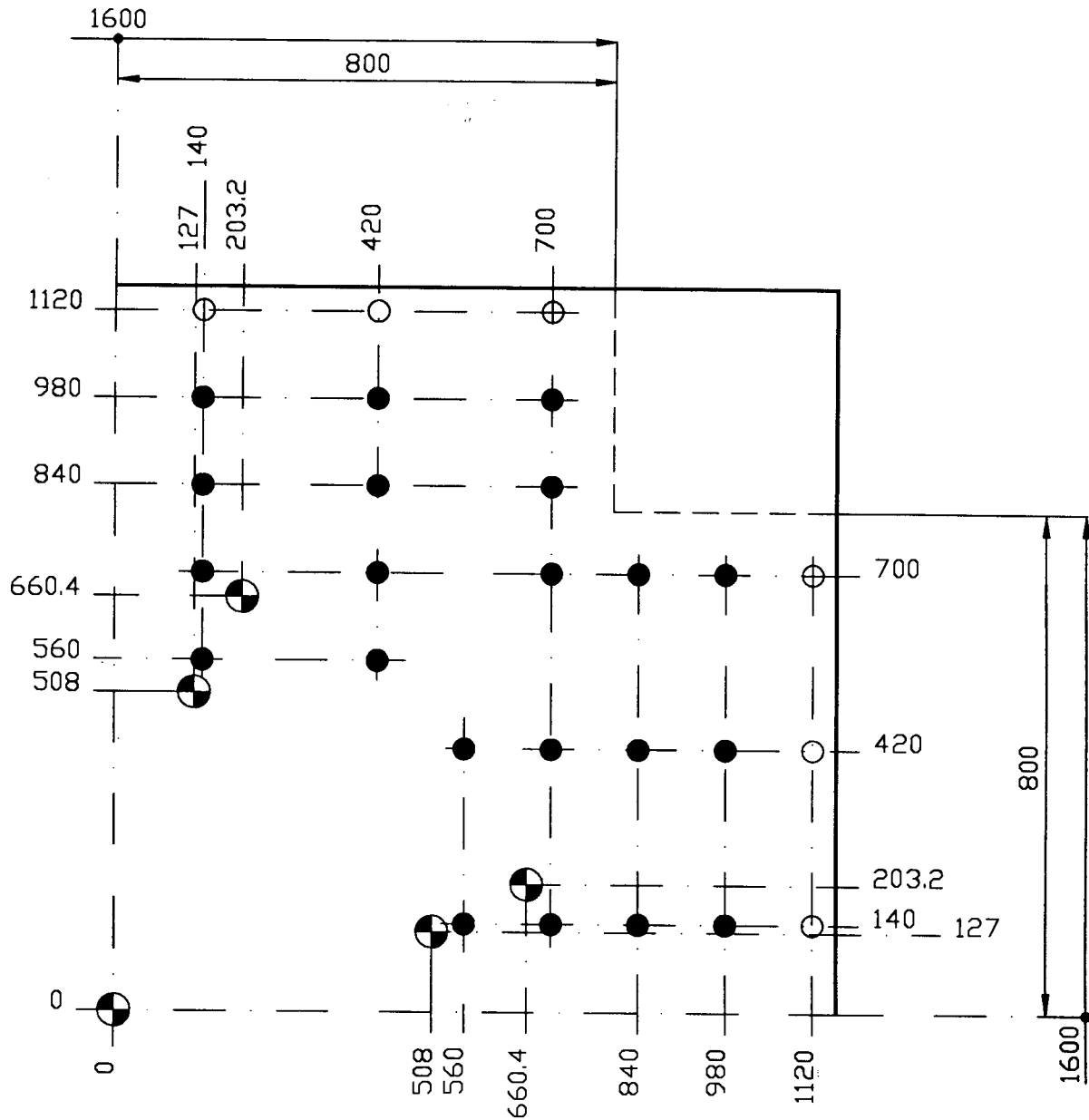
S 1600/1400



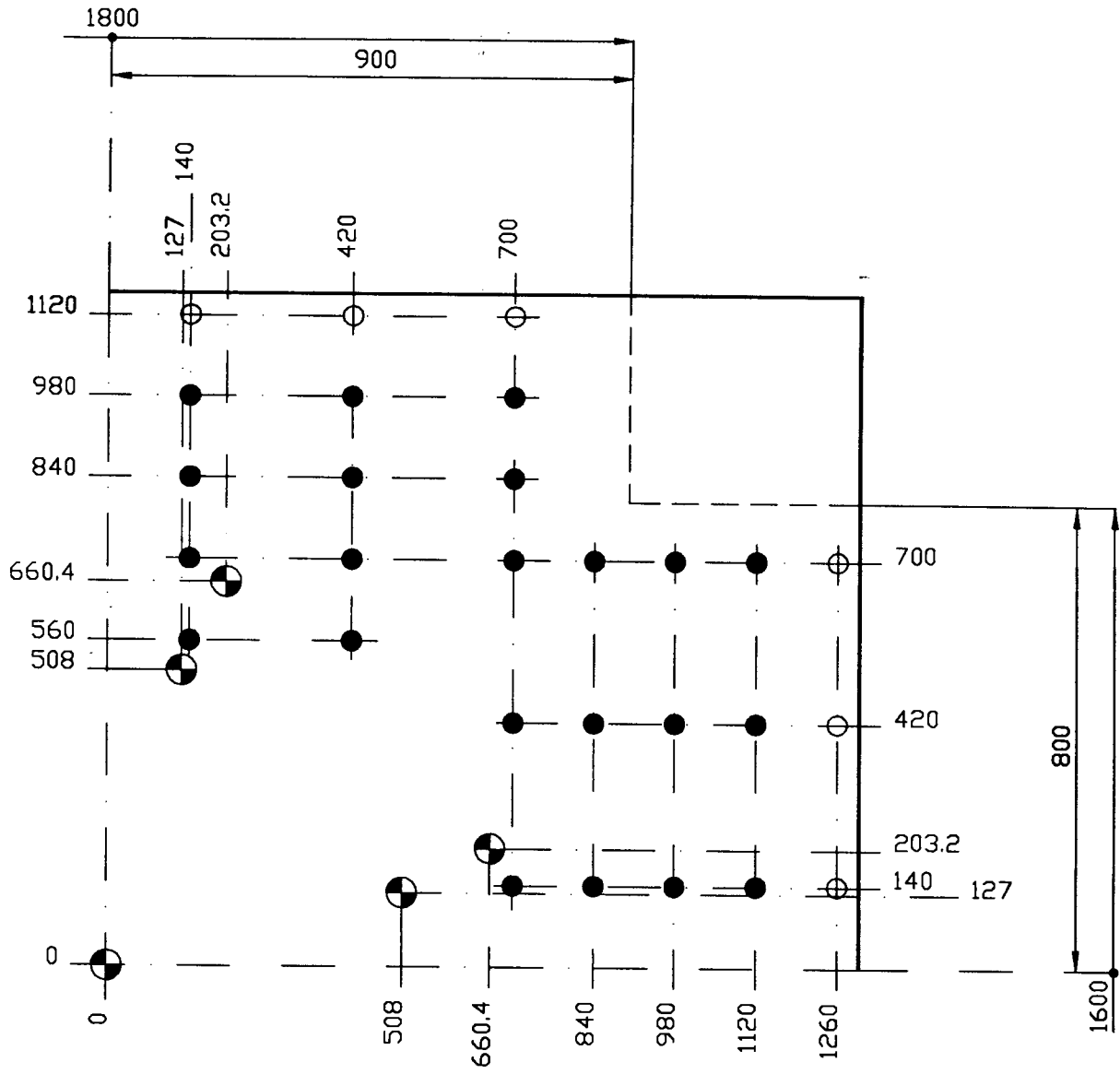
S 1800/1400



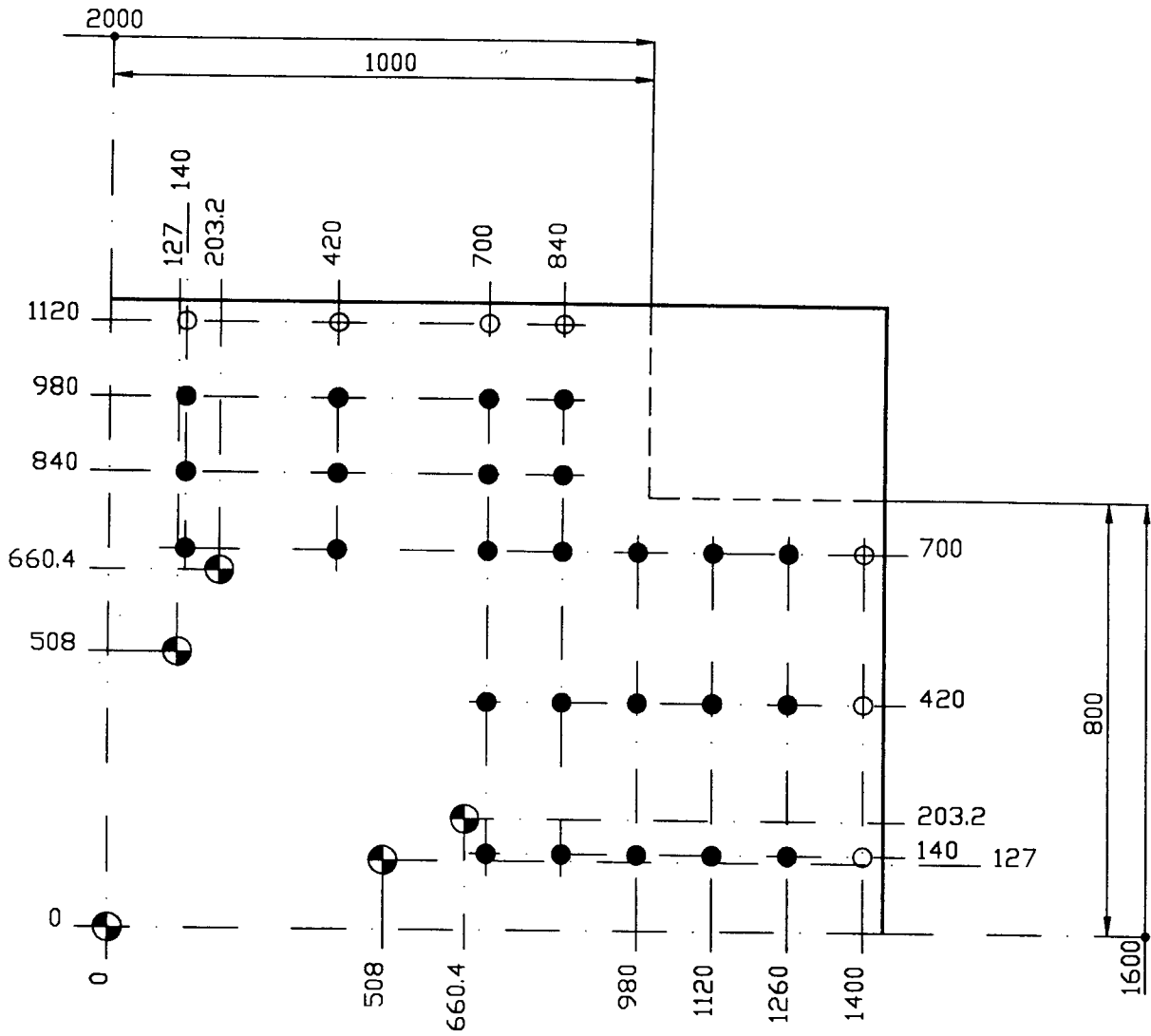
S 1600/1600



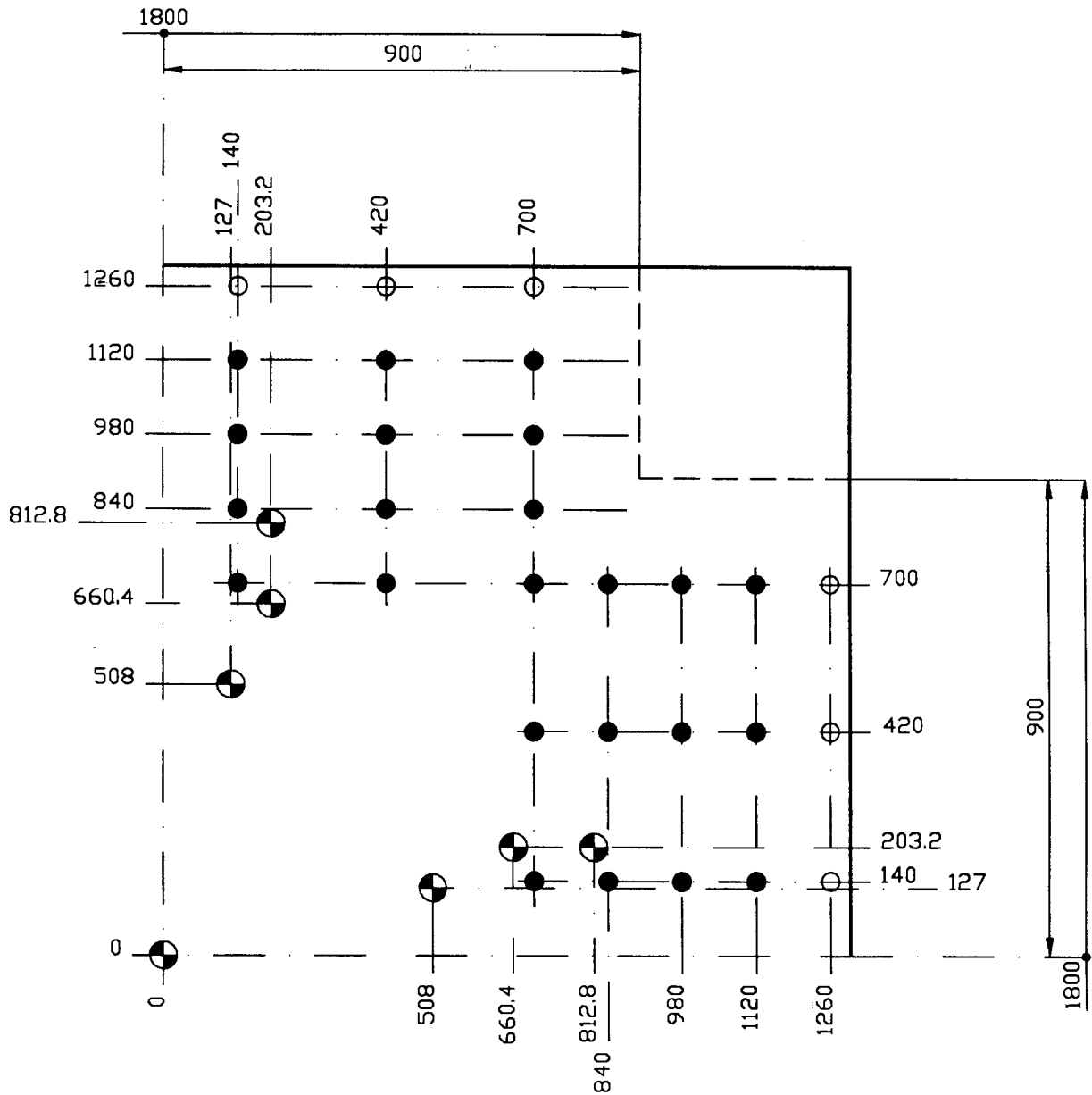
S 1800/1600



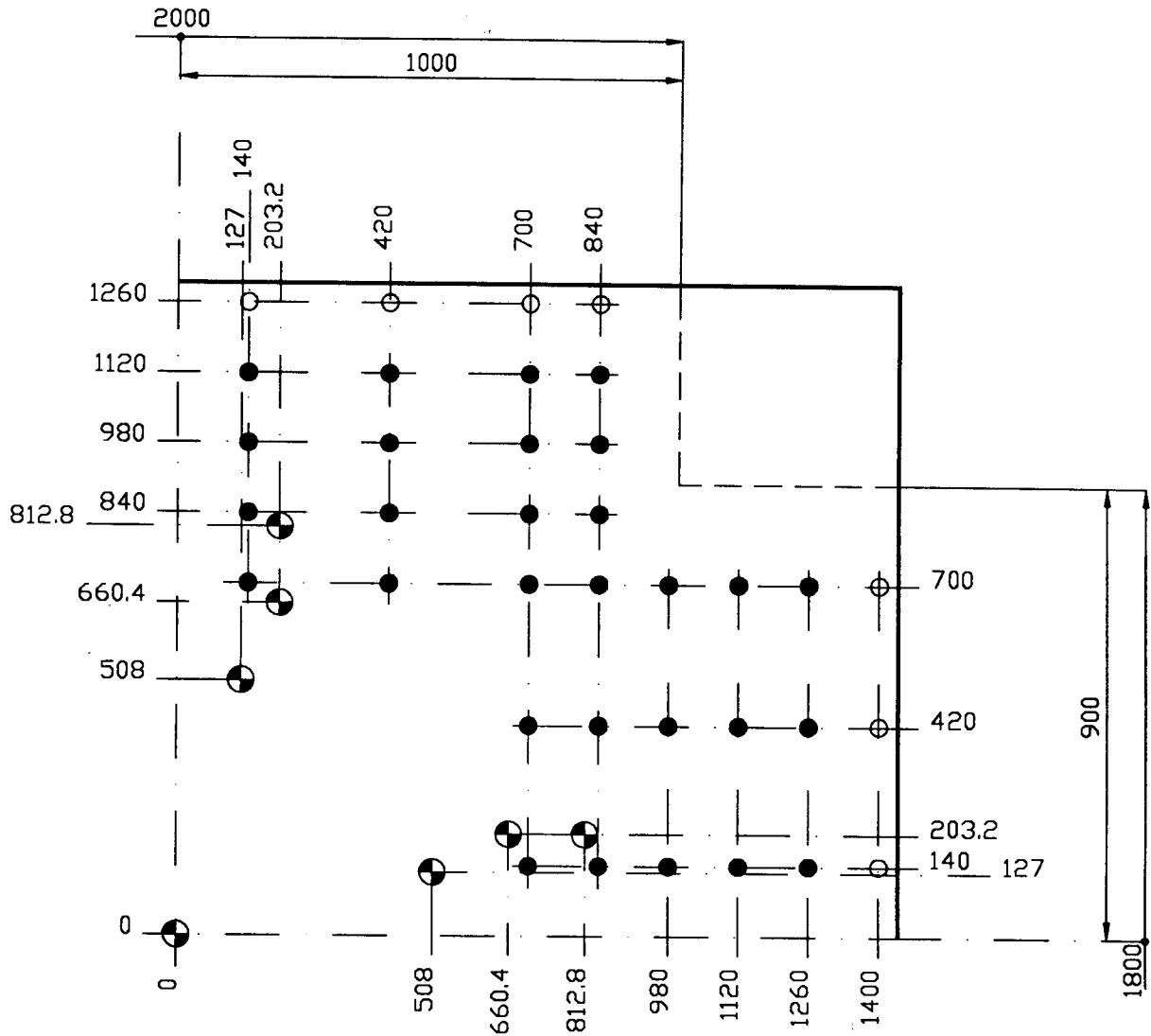
S 2000/1600



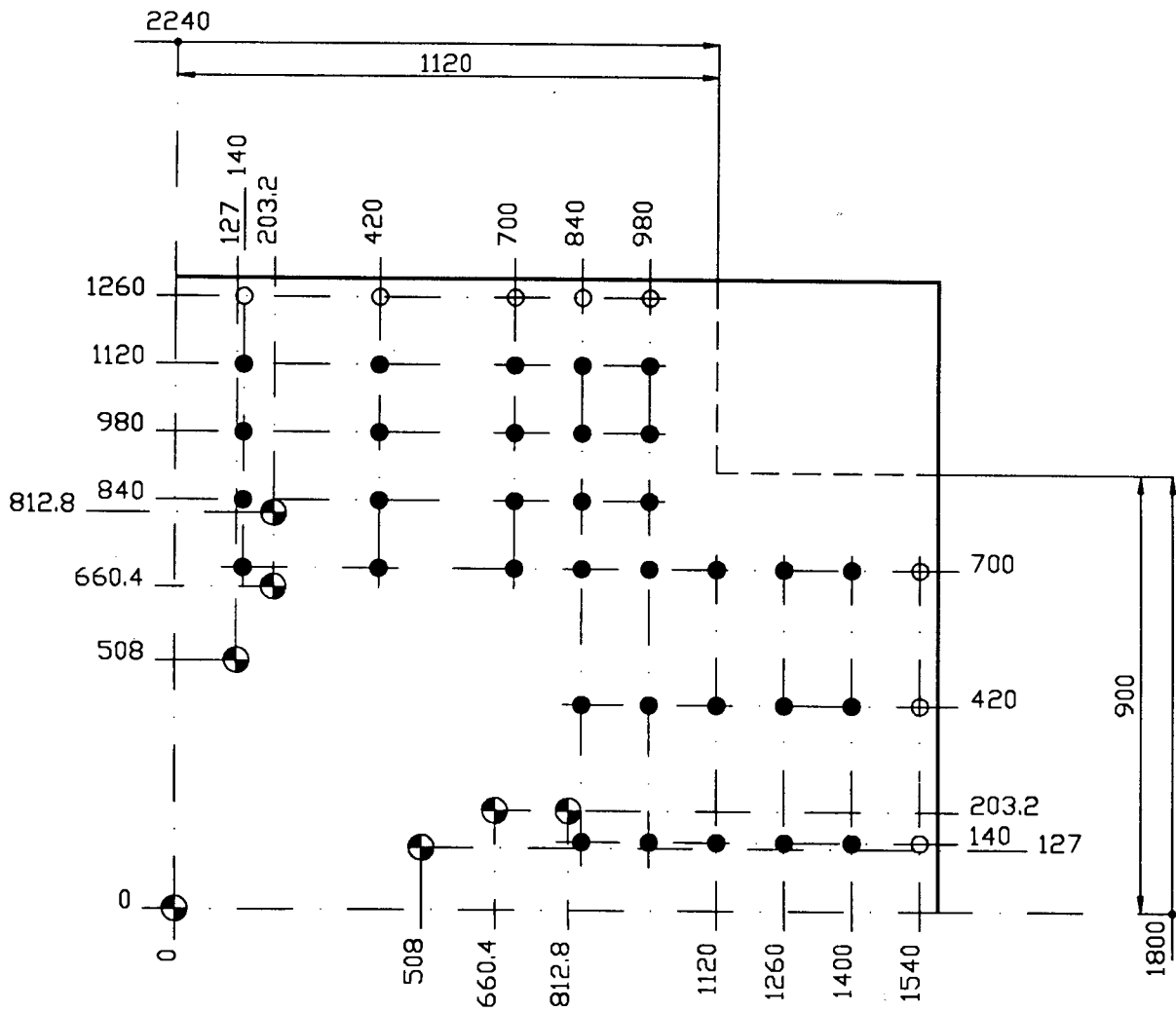
S 1800/1800



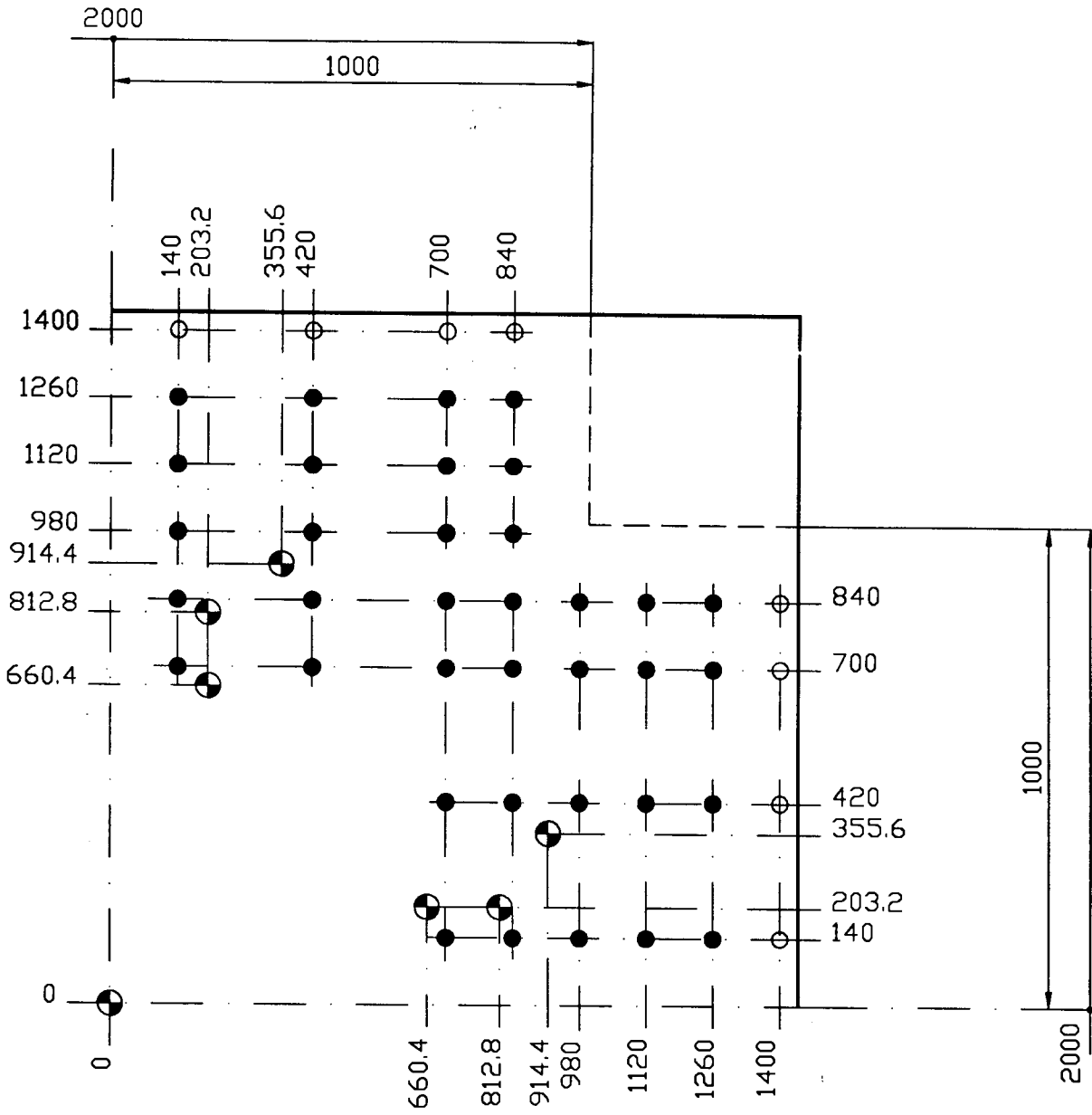
S 2000/1800



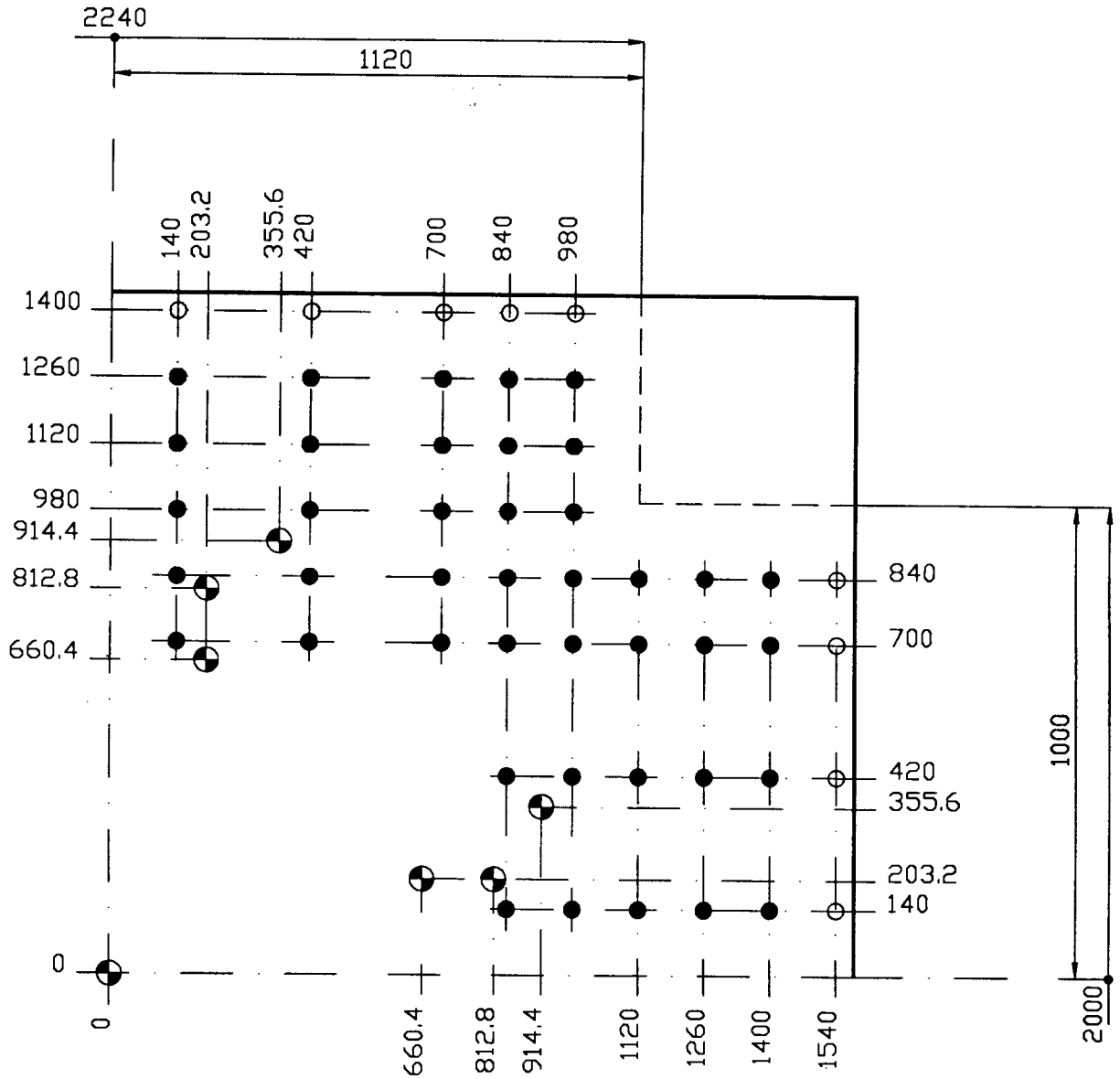
S 2240/1800



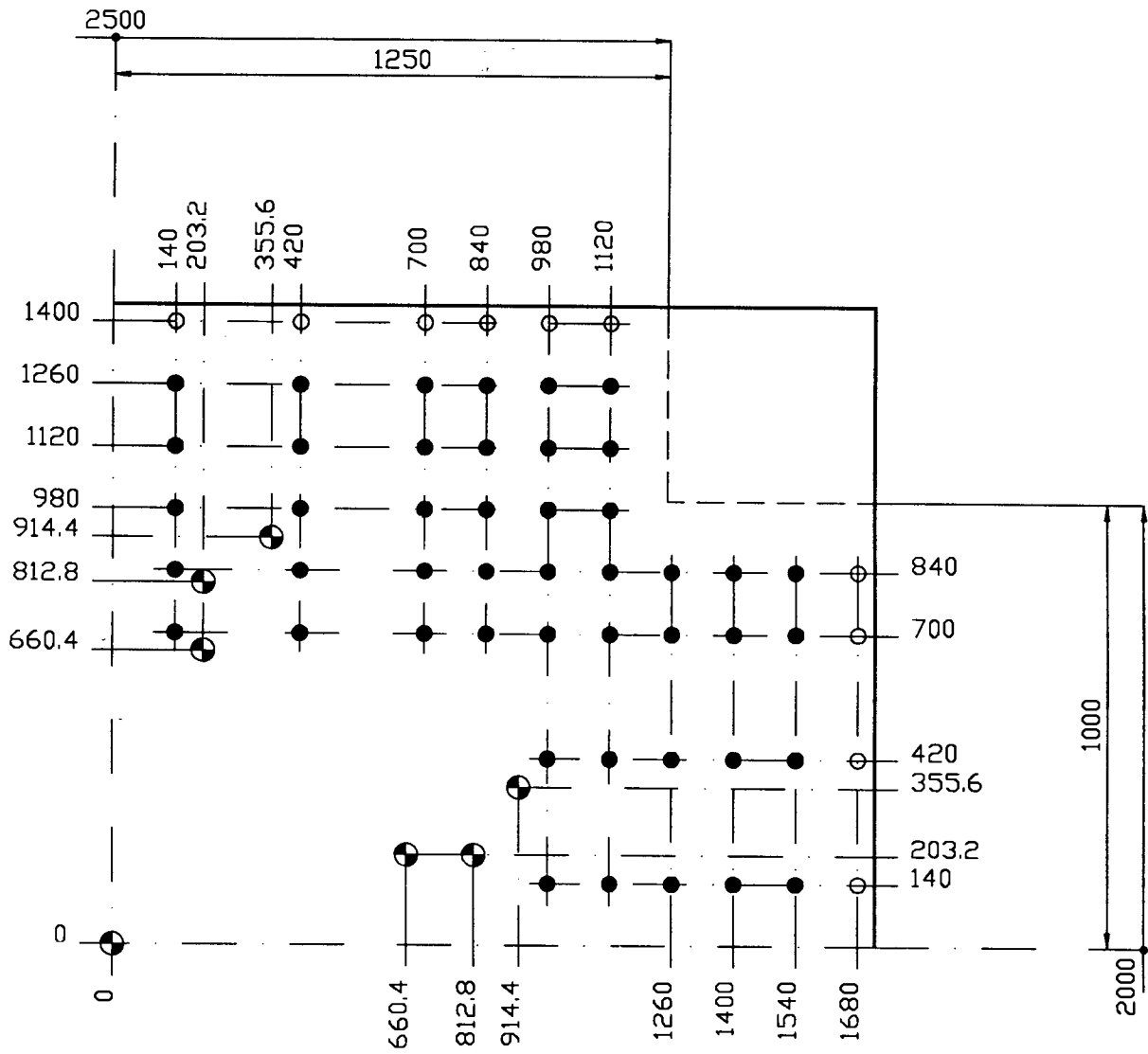
S 2000/2000



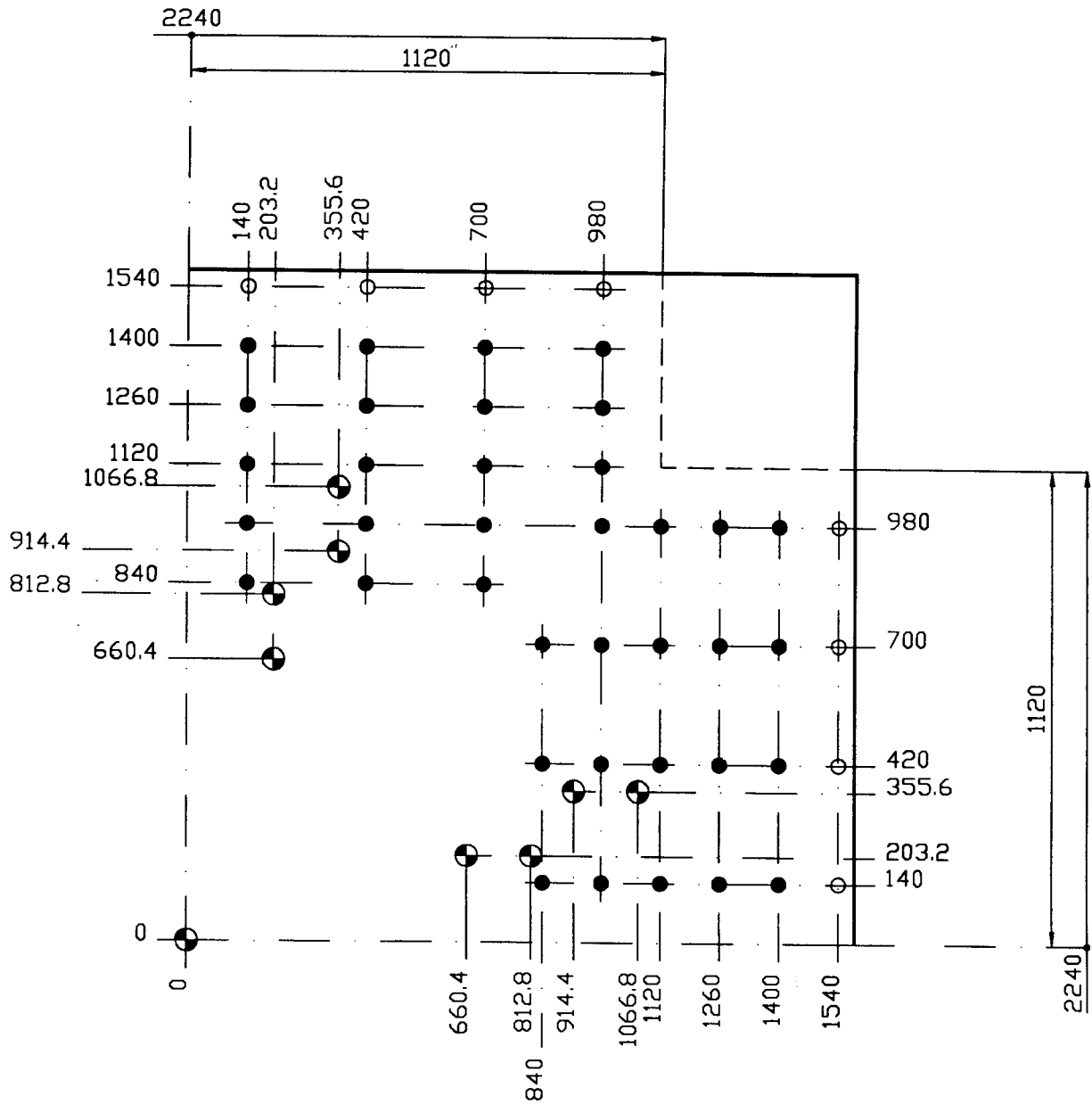
S 2240/2000



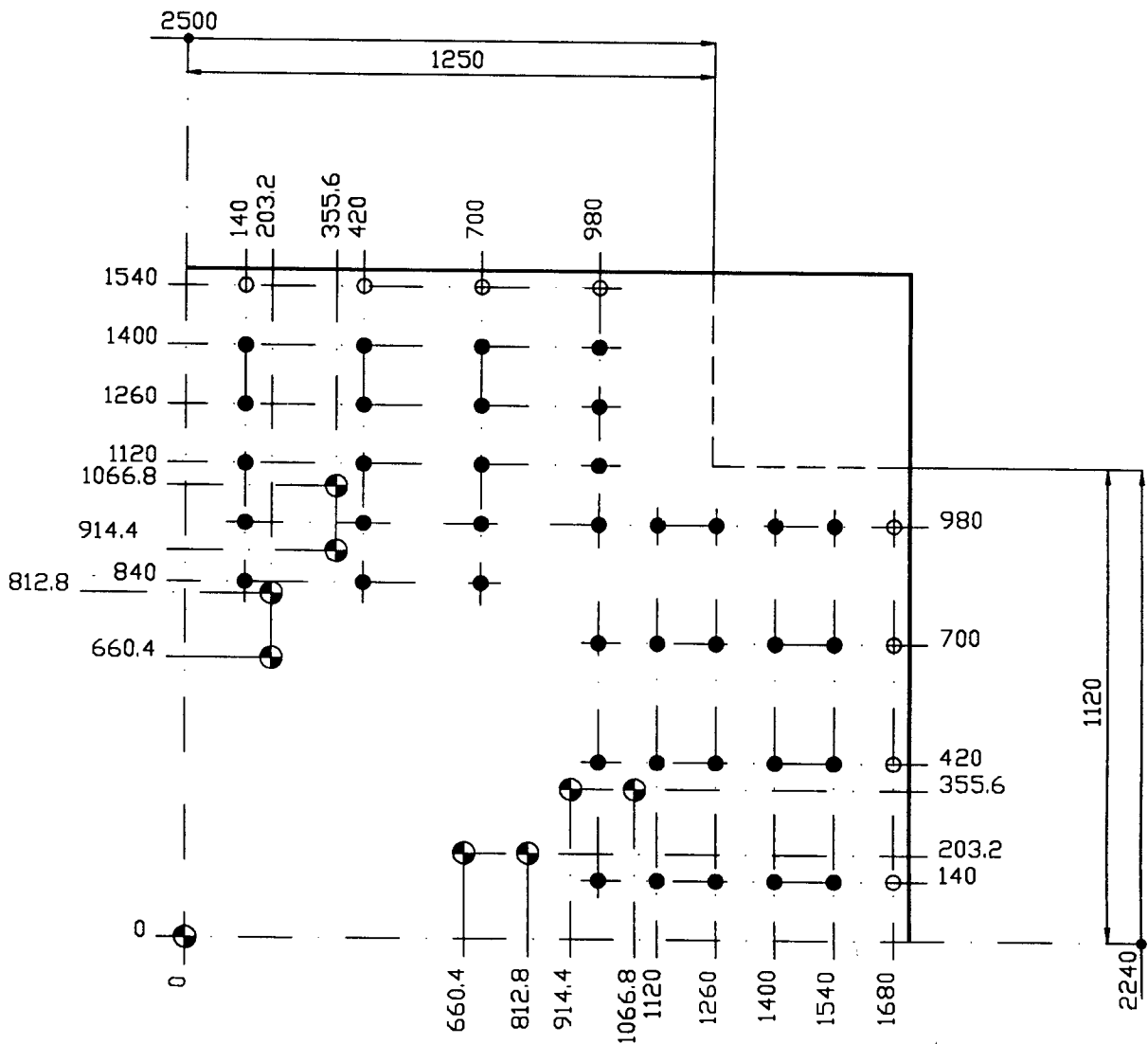
S 2500/2000



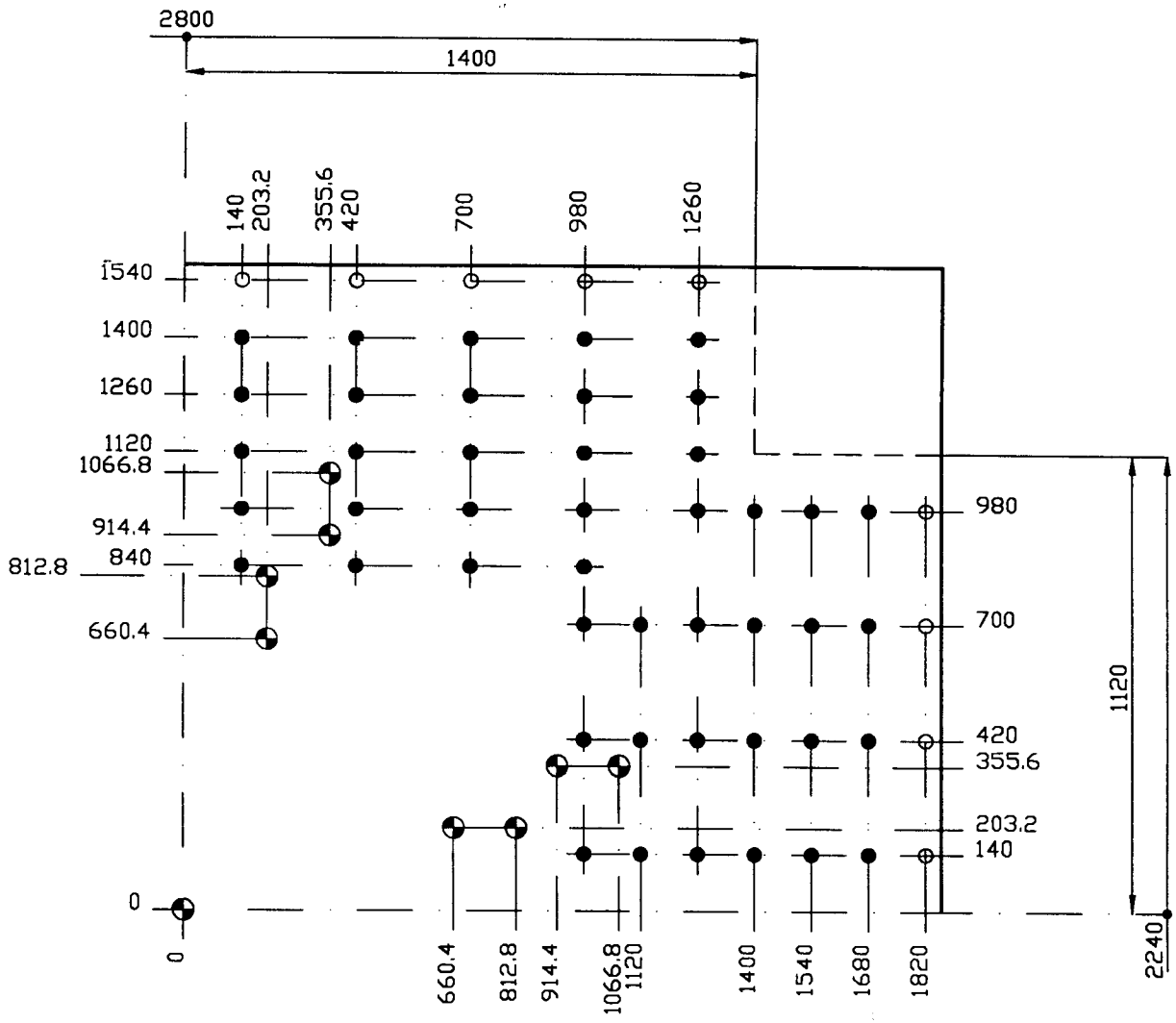
S 2240/2240



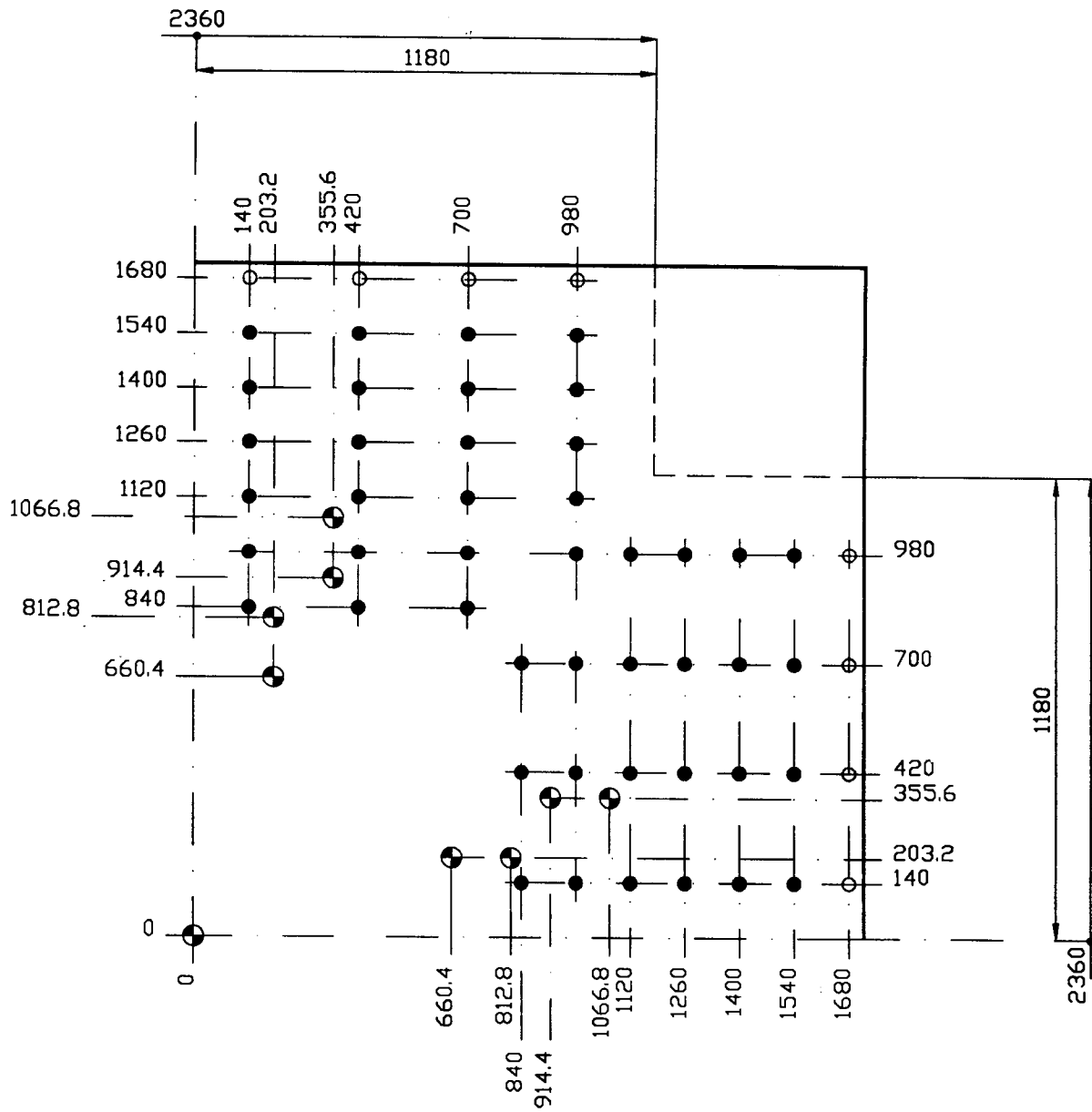
S 2500/2240



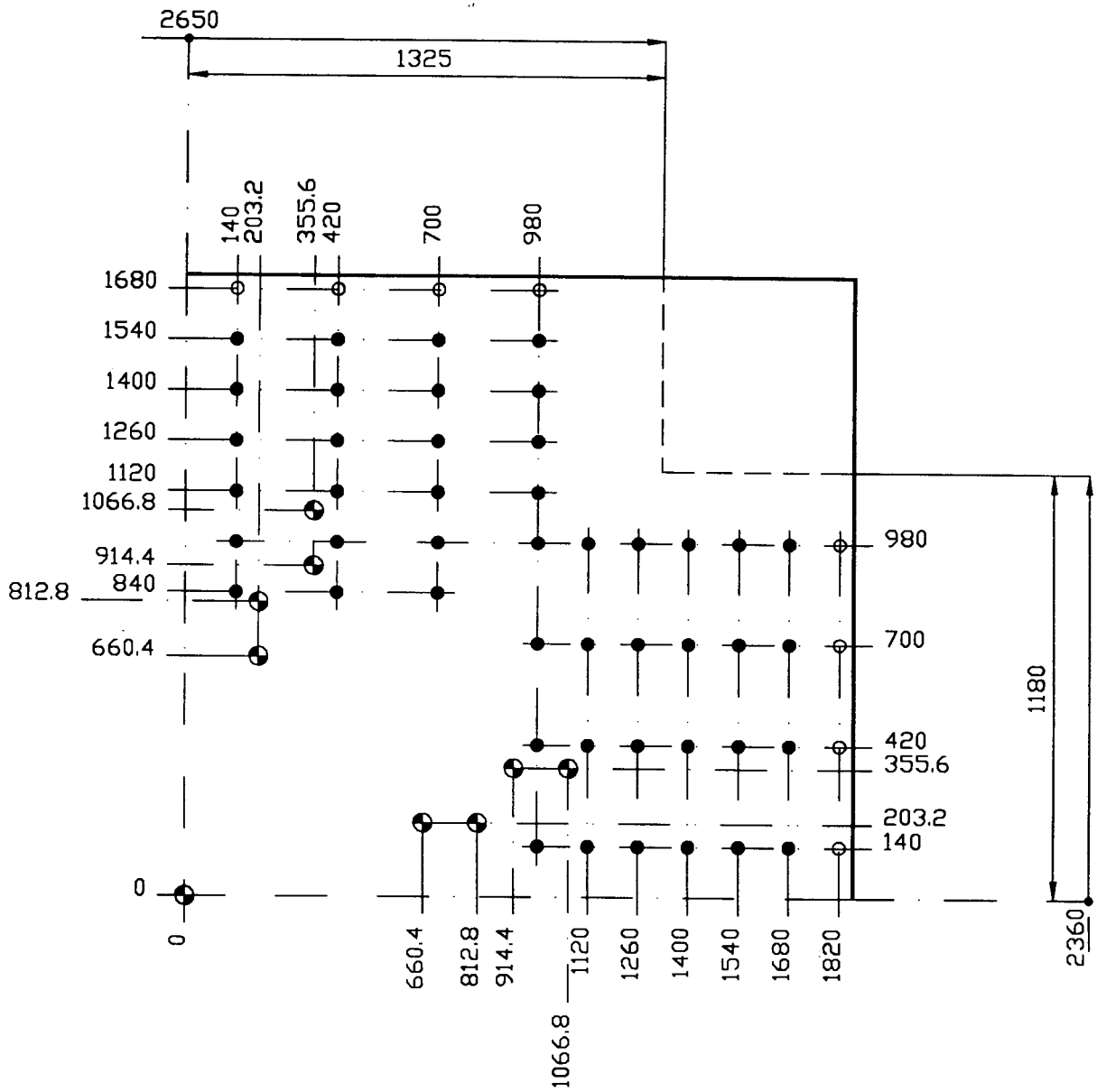
S 2800/2240



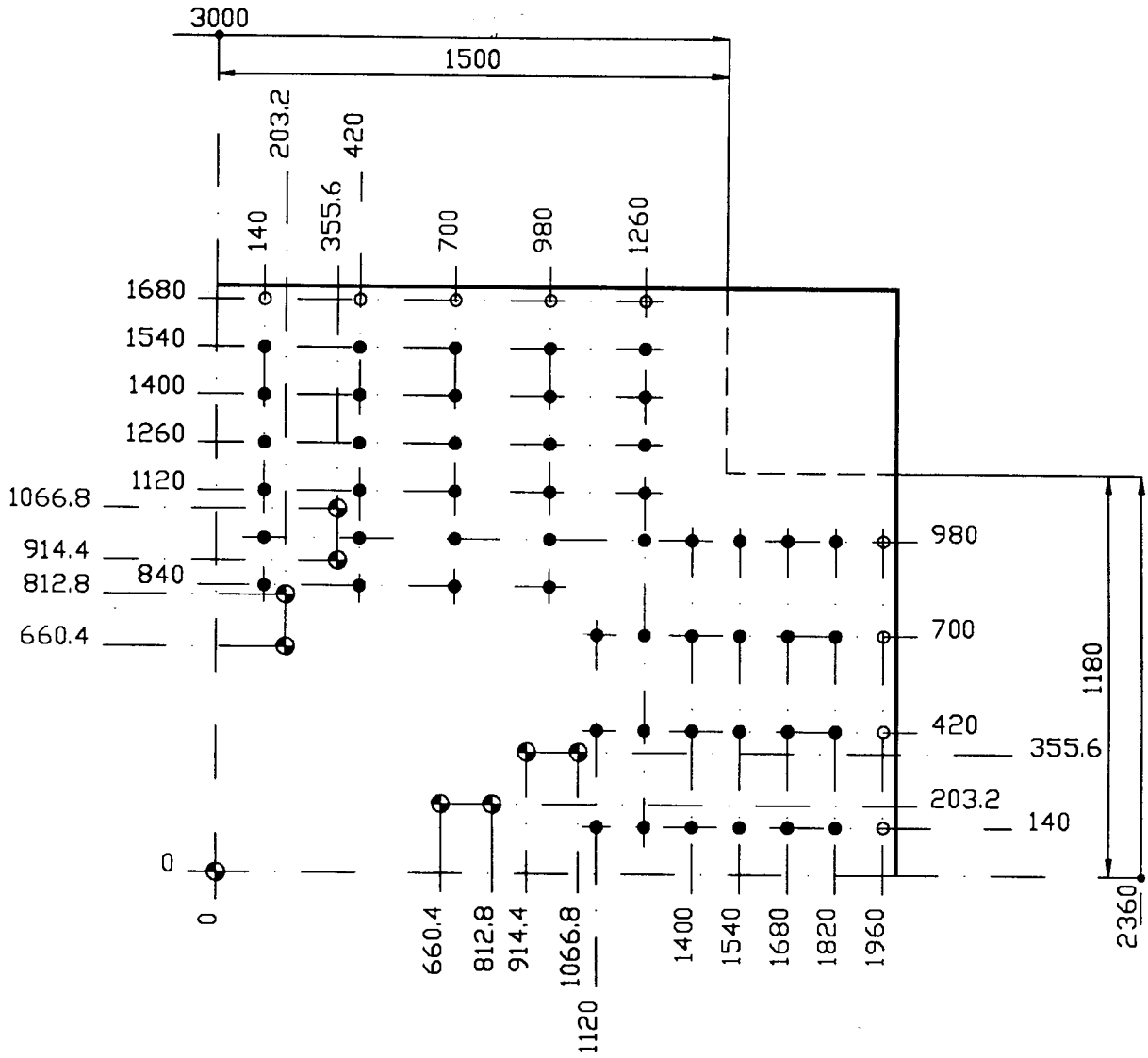
S 2360/2360



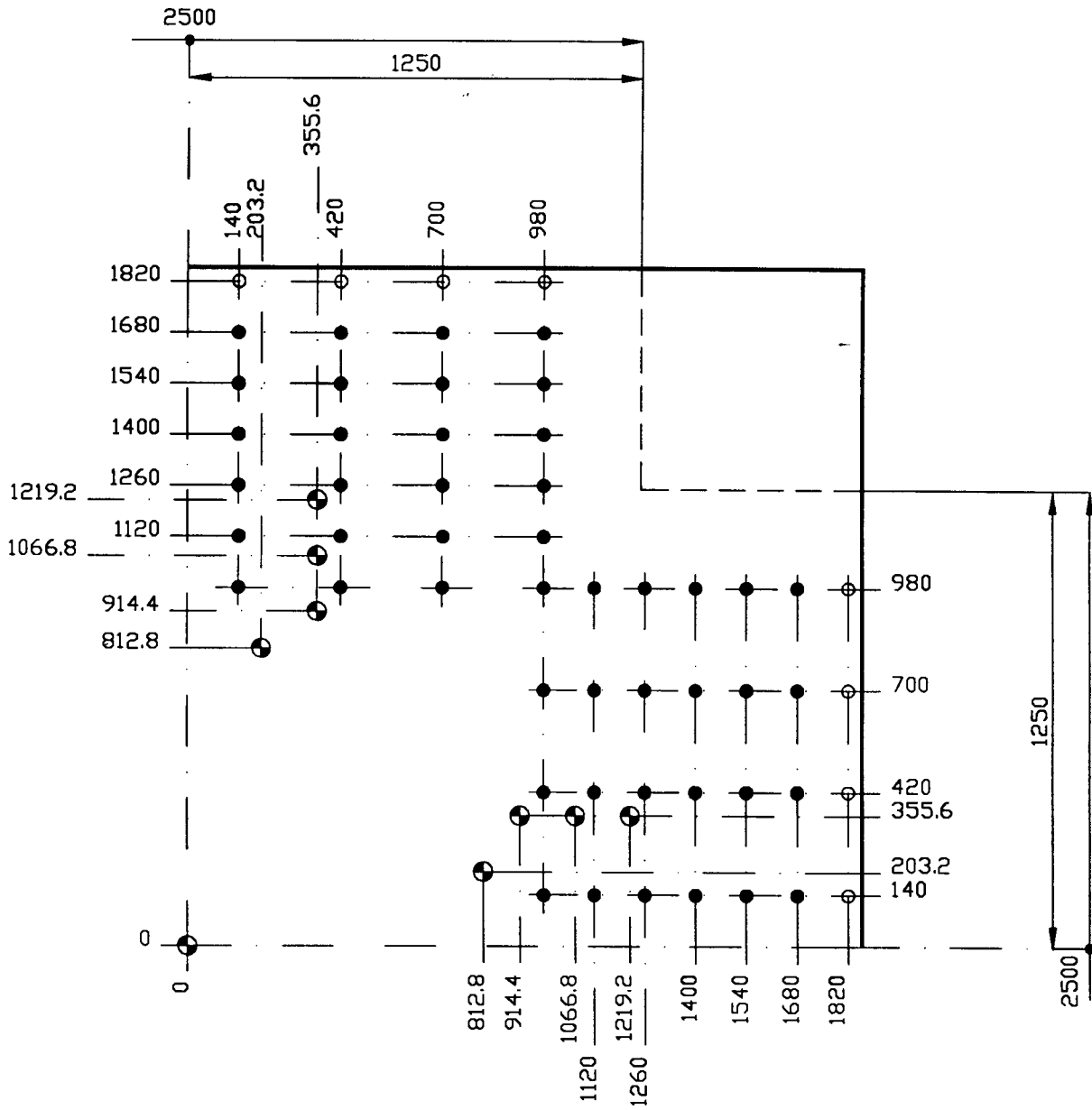
S 2650/2360



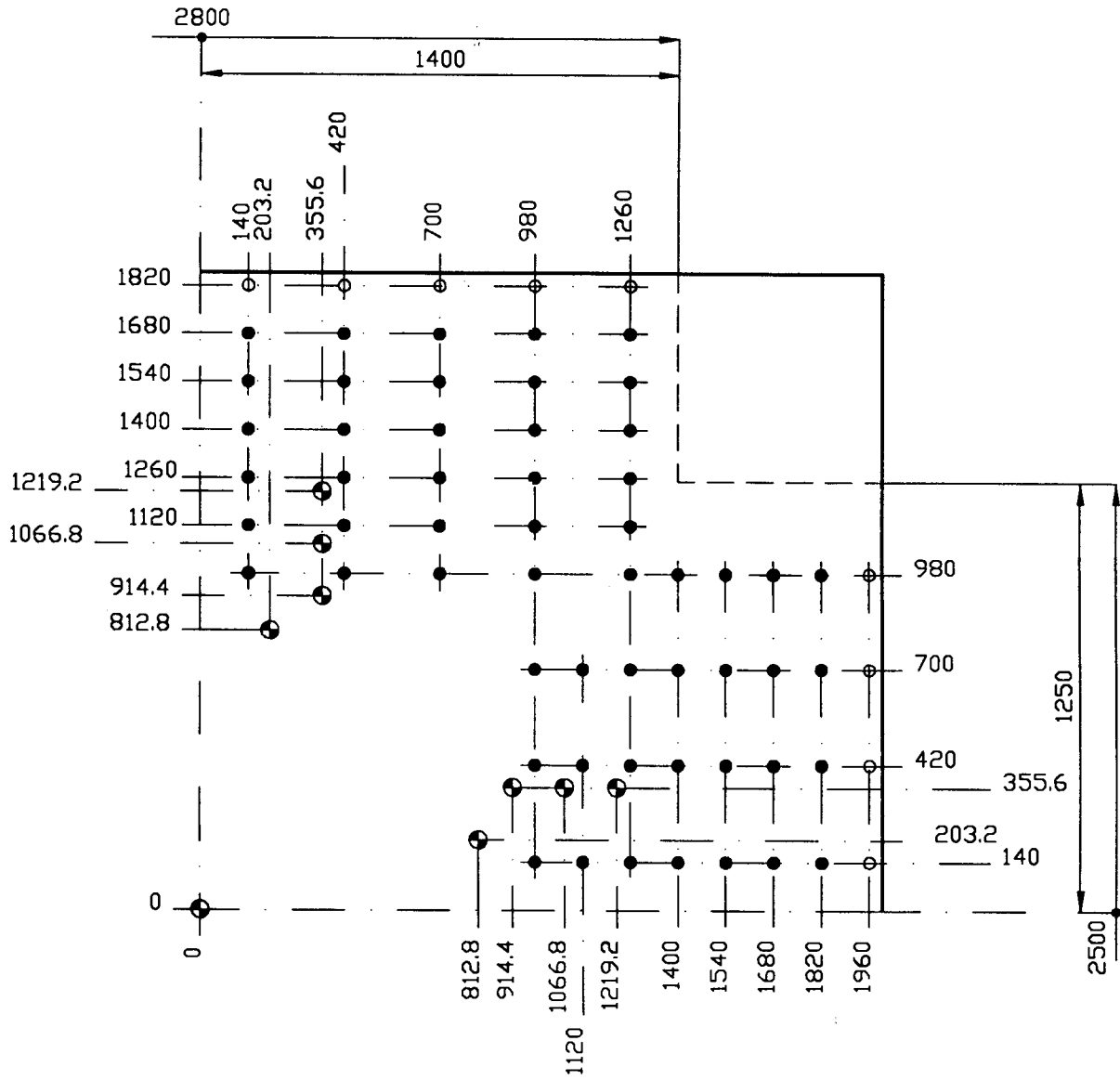
S 3000/2360



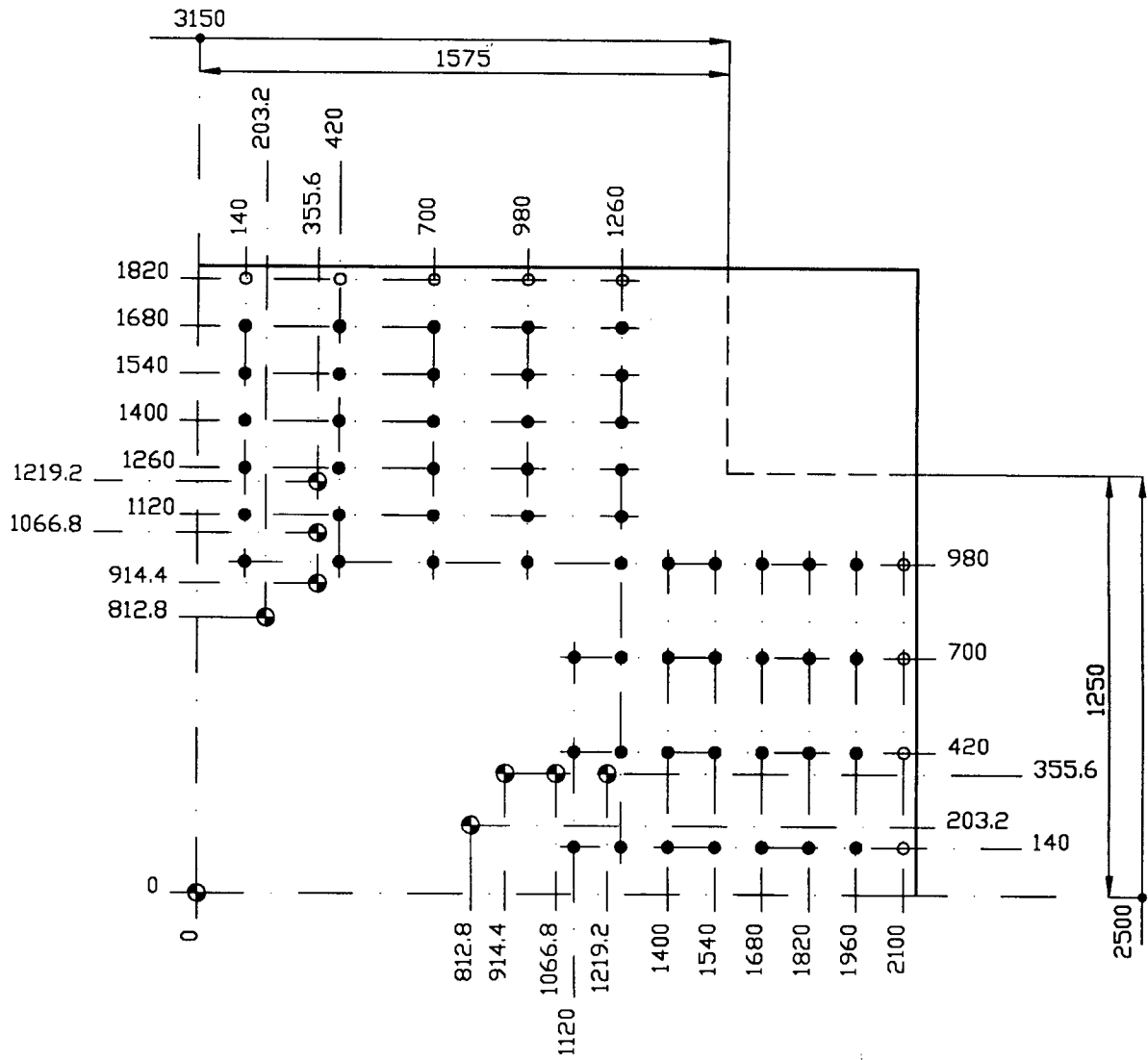
S 2500/2500



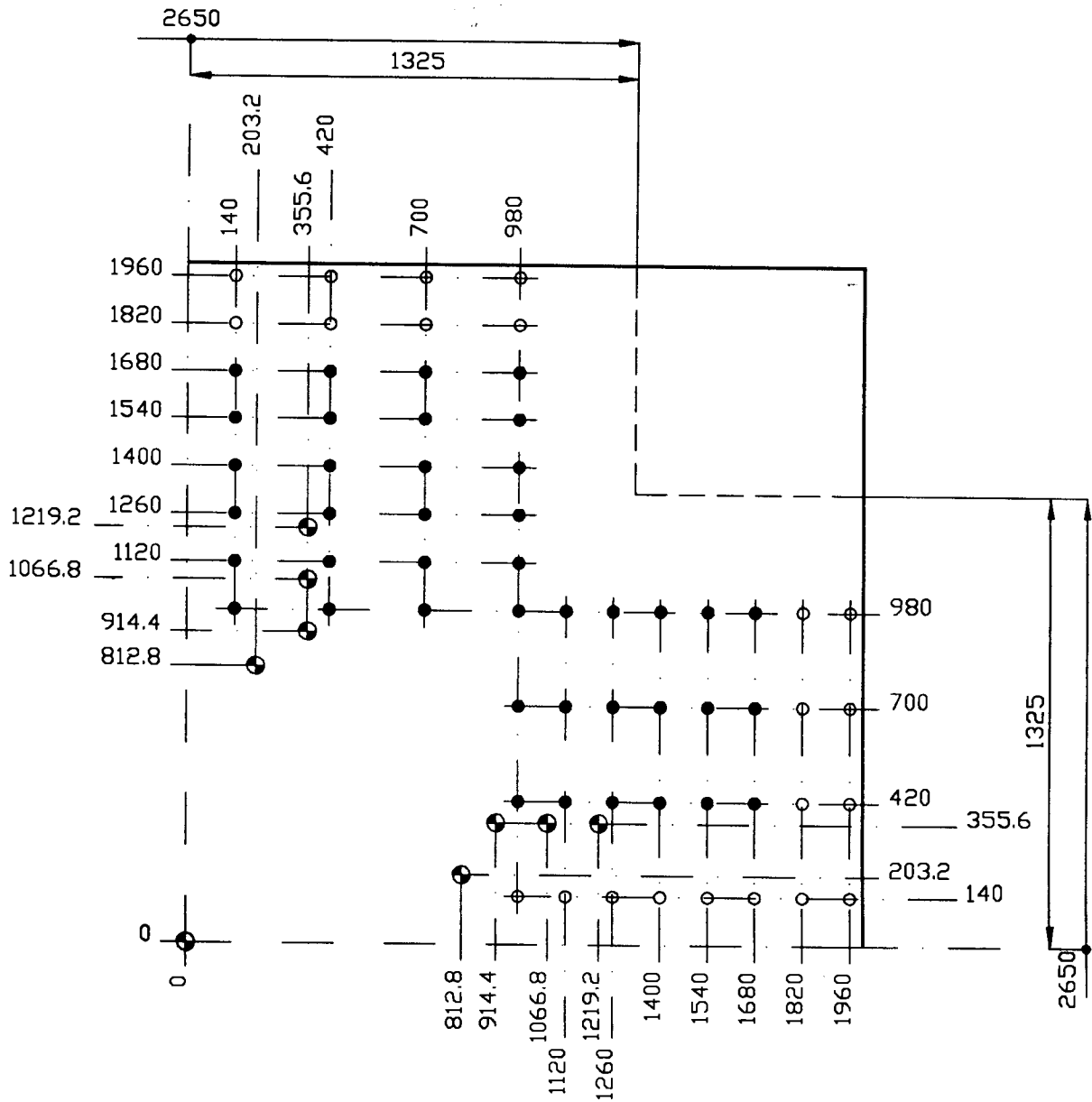
S 2800/2500



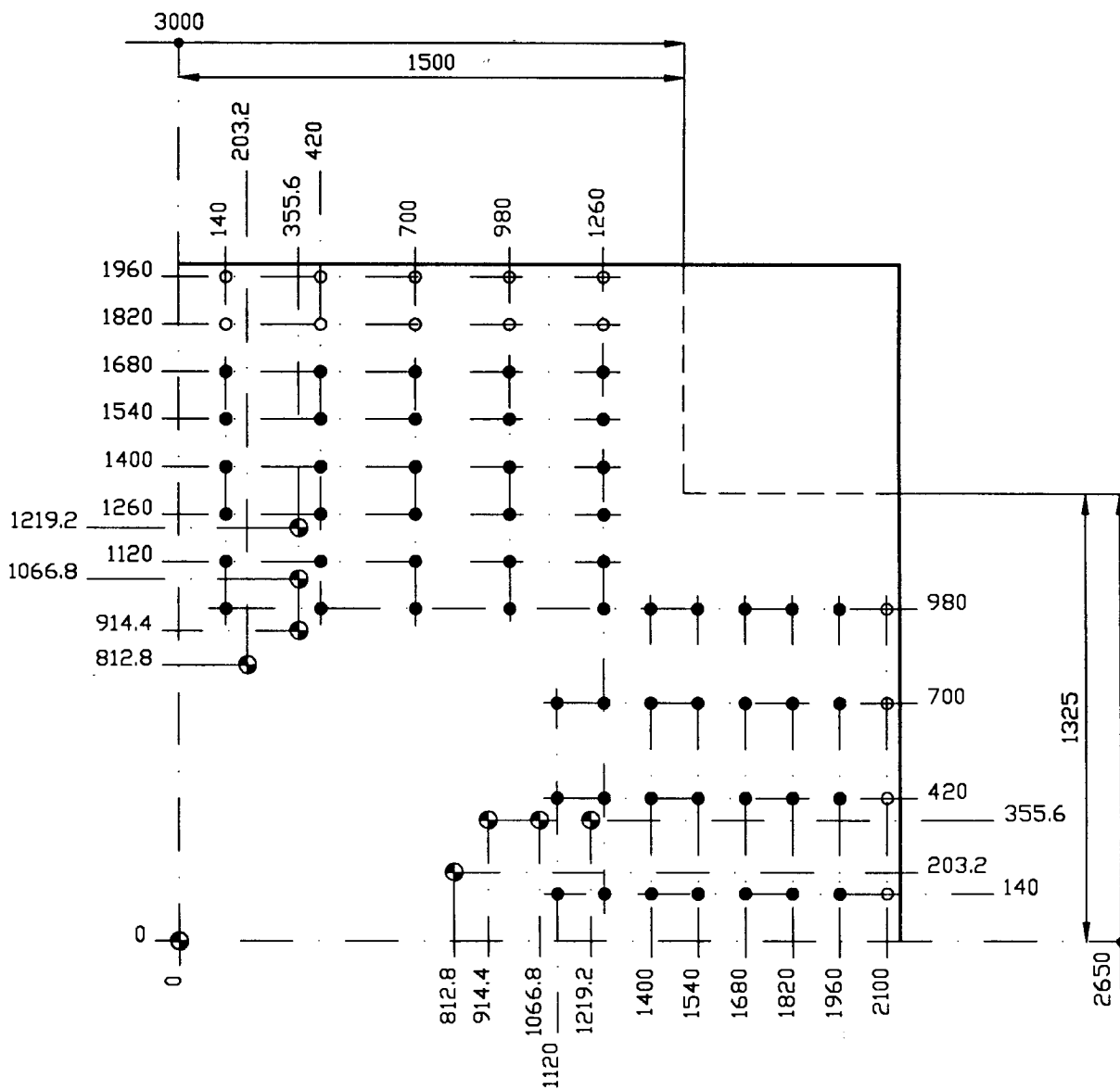
S 3150/2500



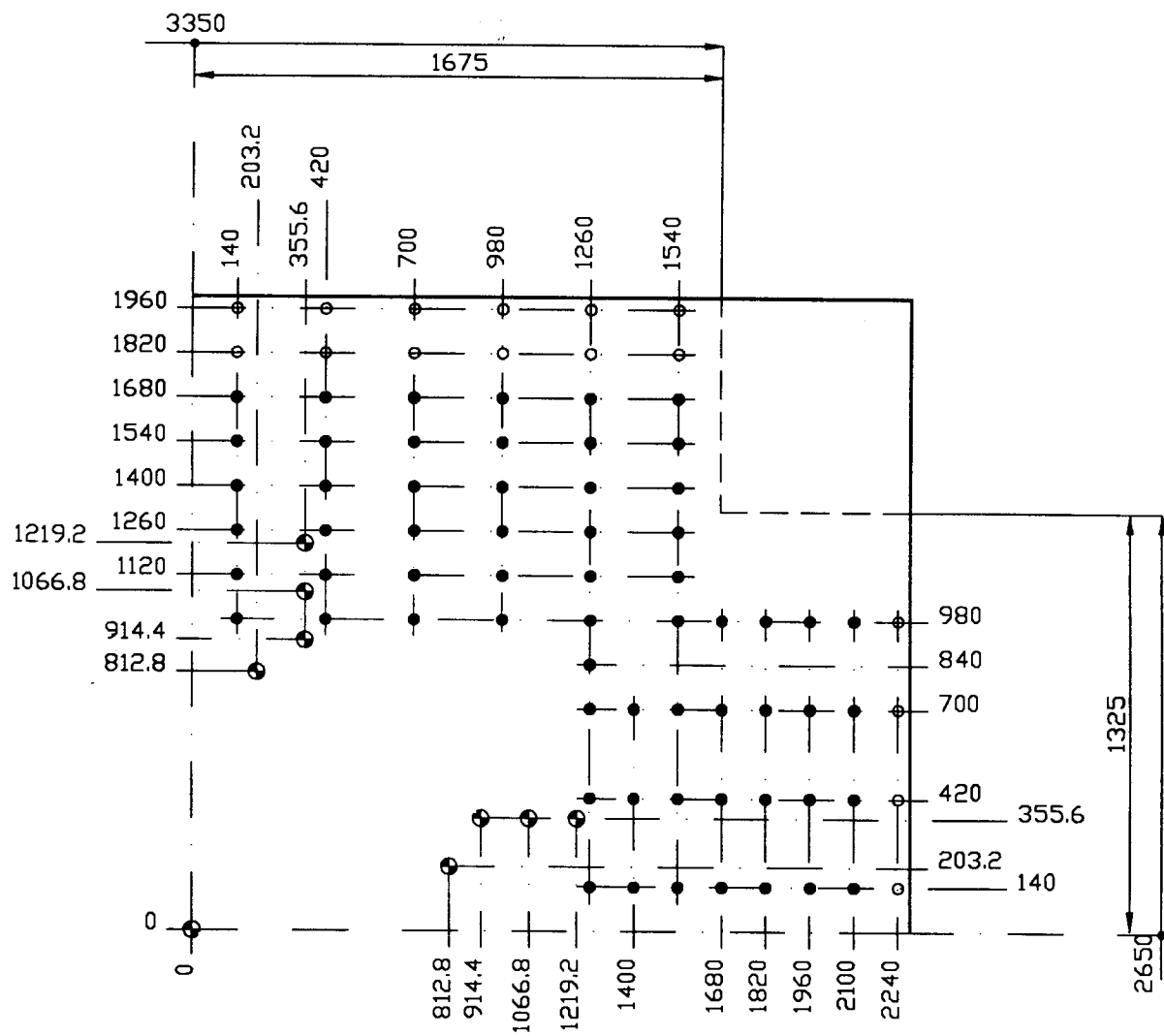
S 2650/2650



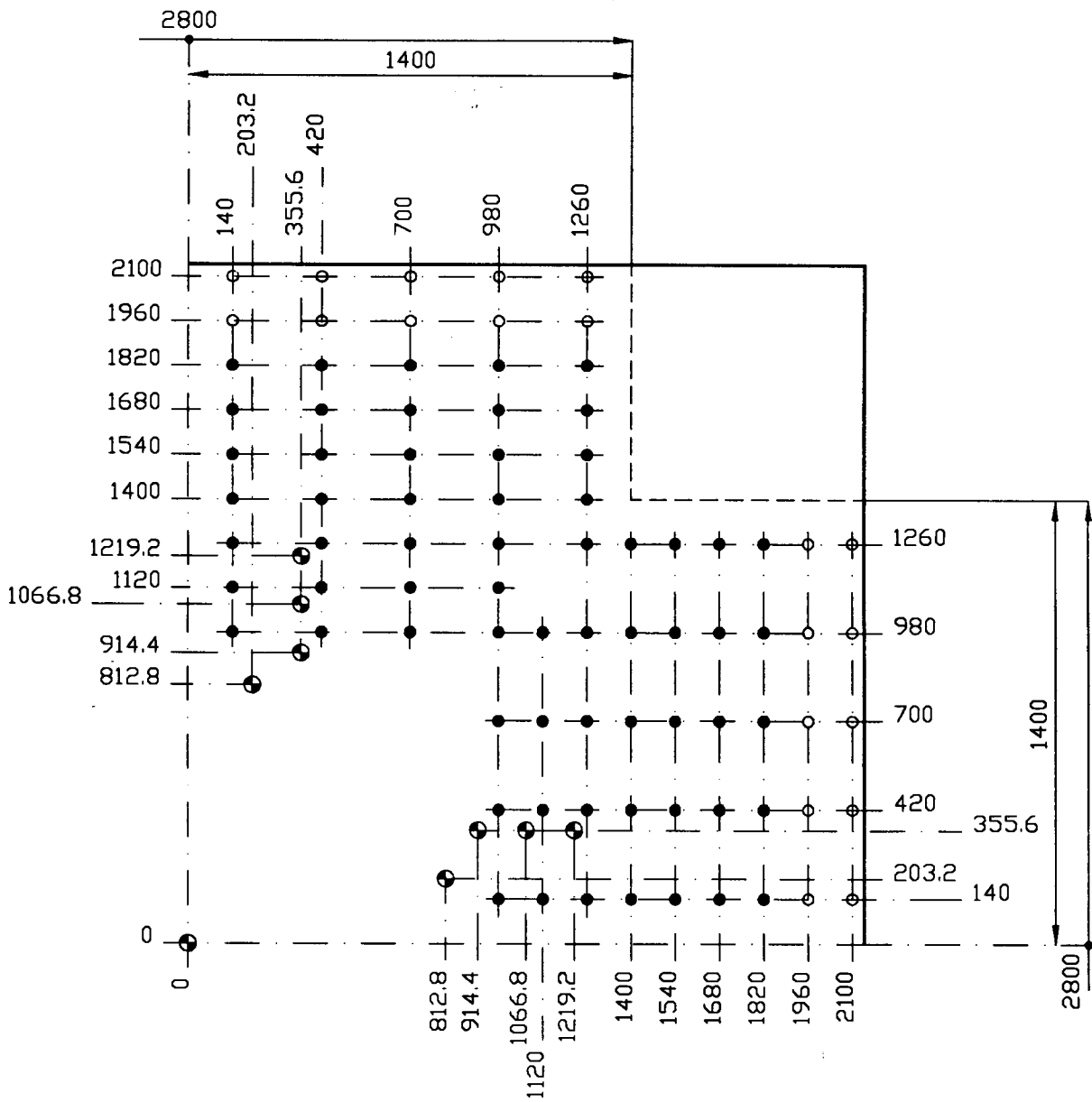
S 3000/2650



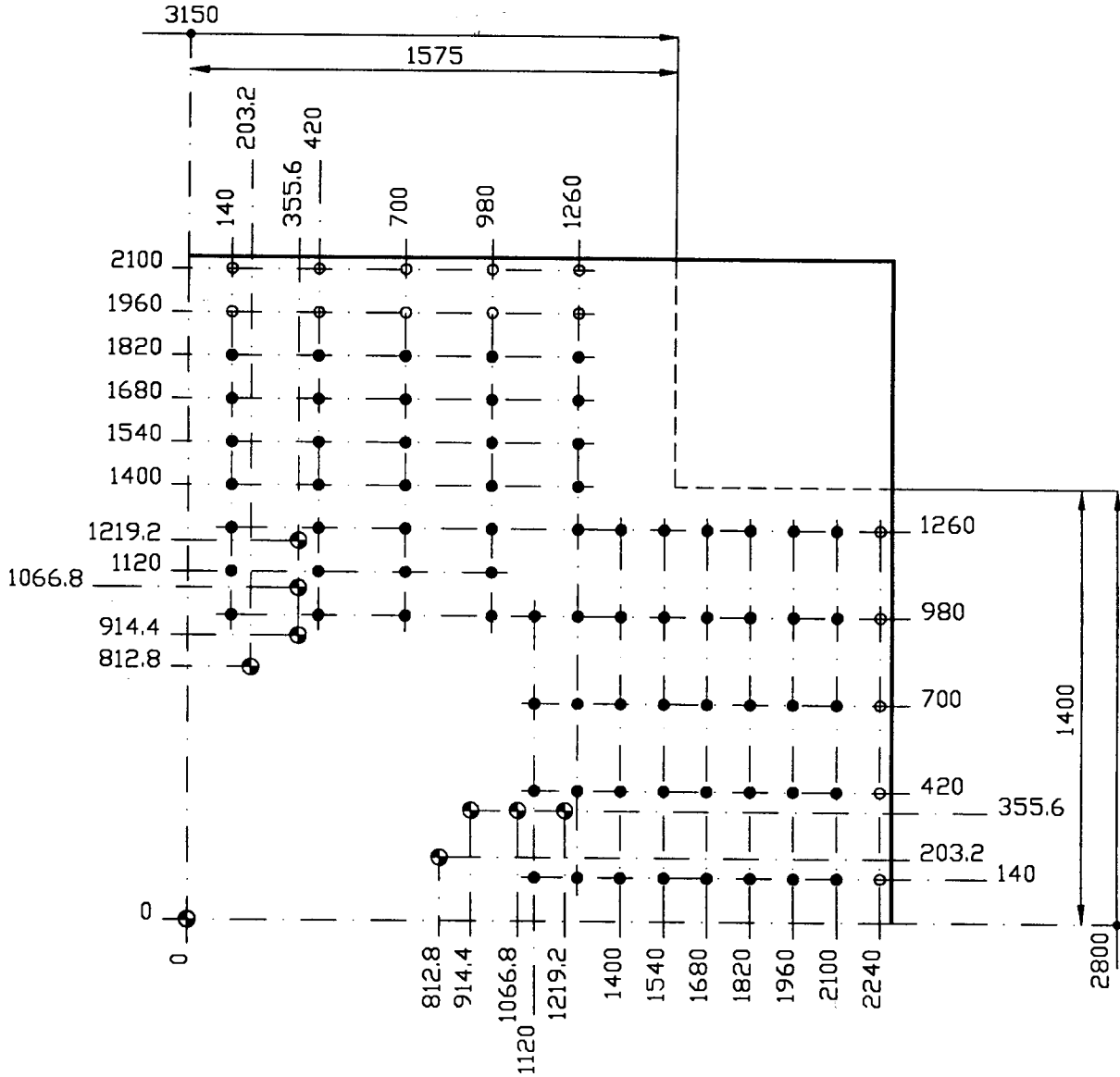
S 3350/2650



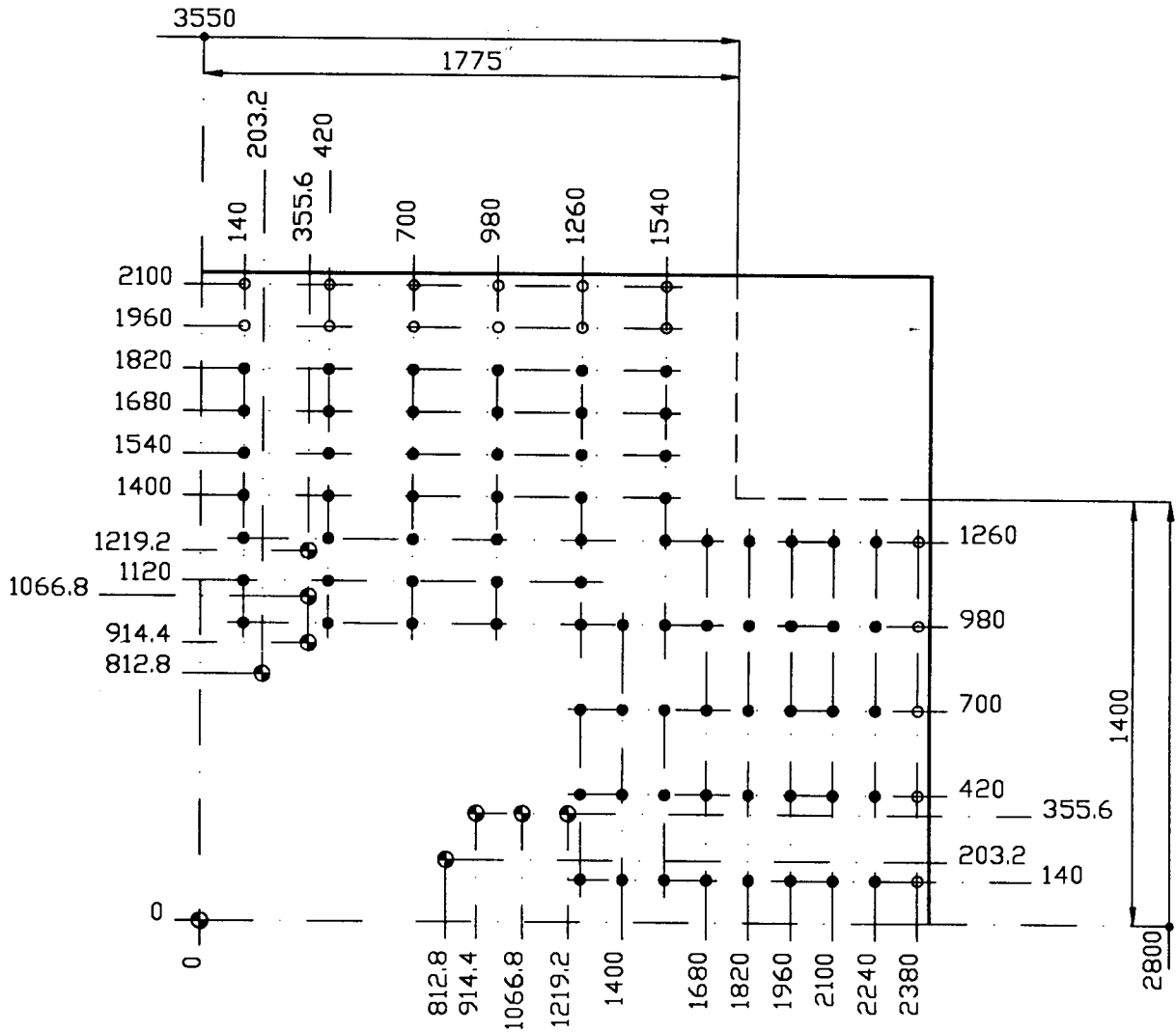
S 2800/2800



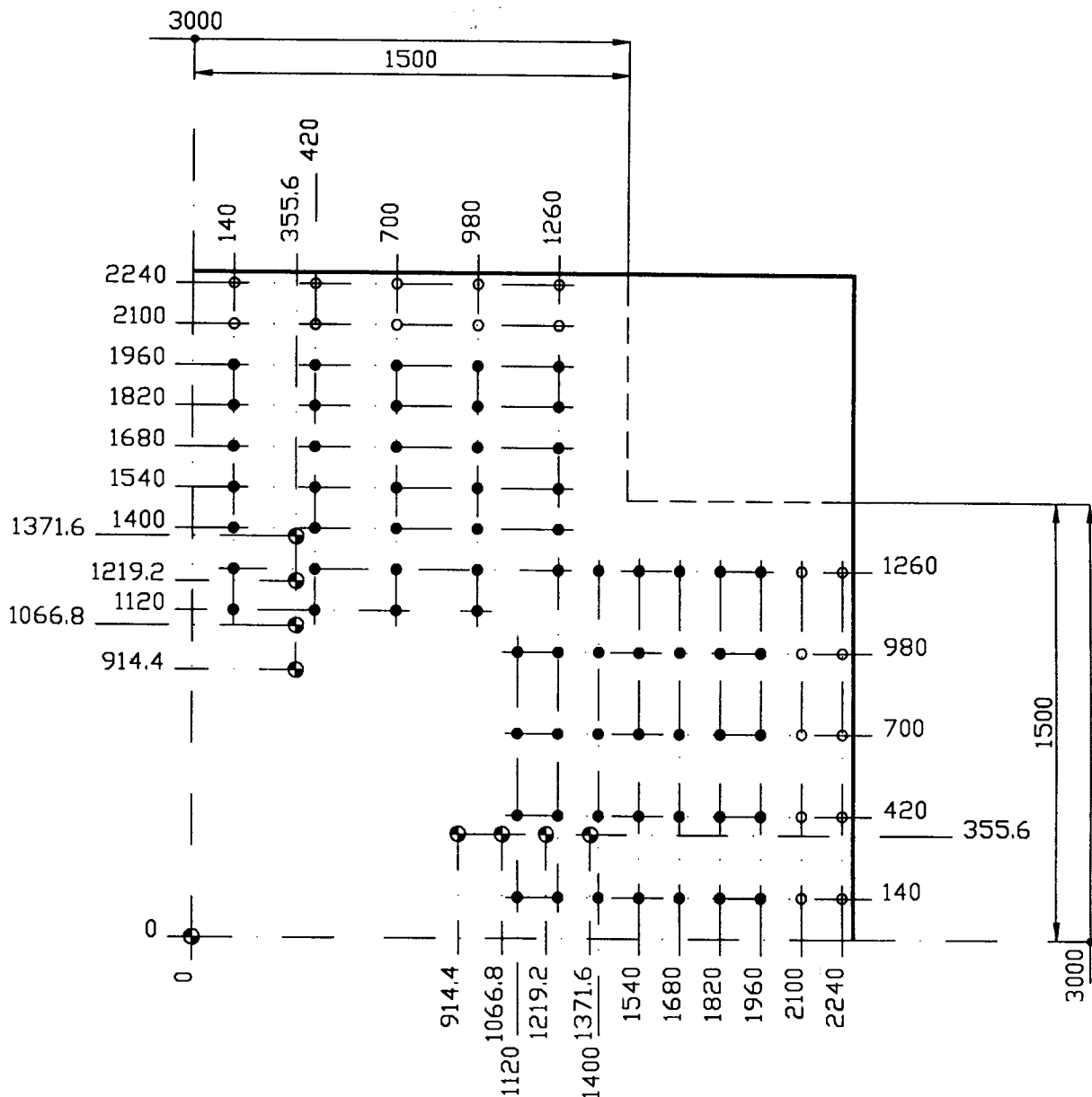
S 3150/2800



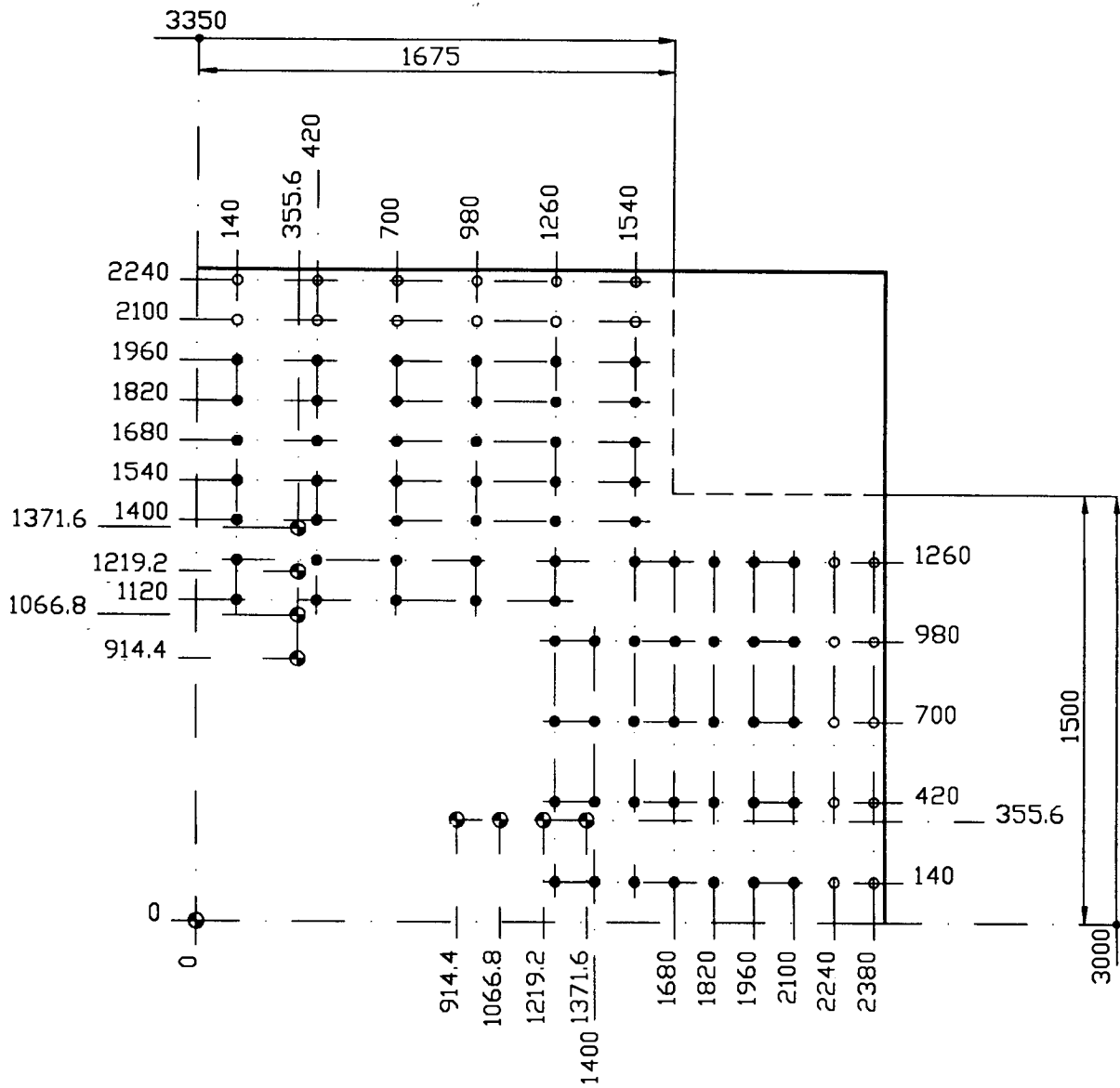
S 3550/2800



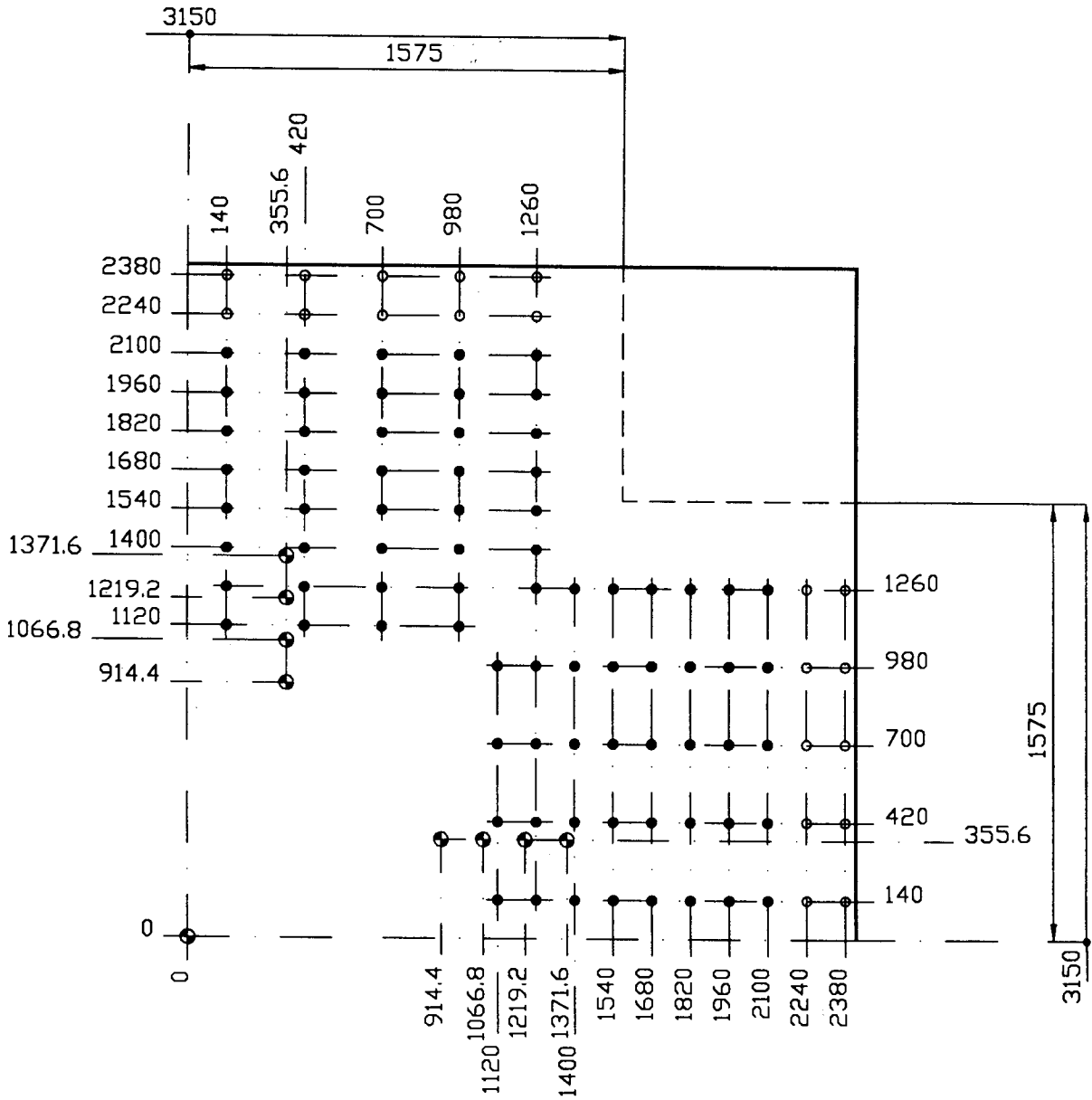
S 3000/3000



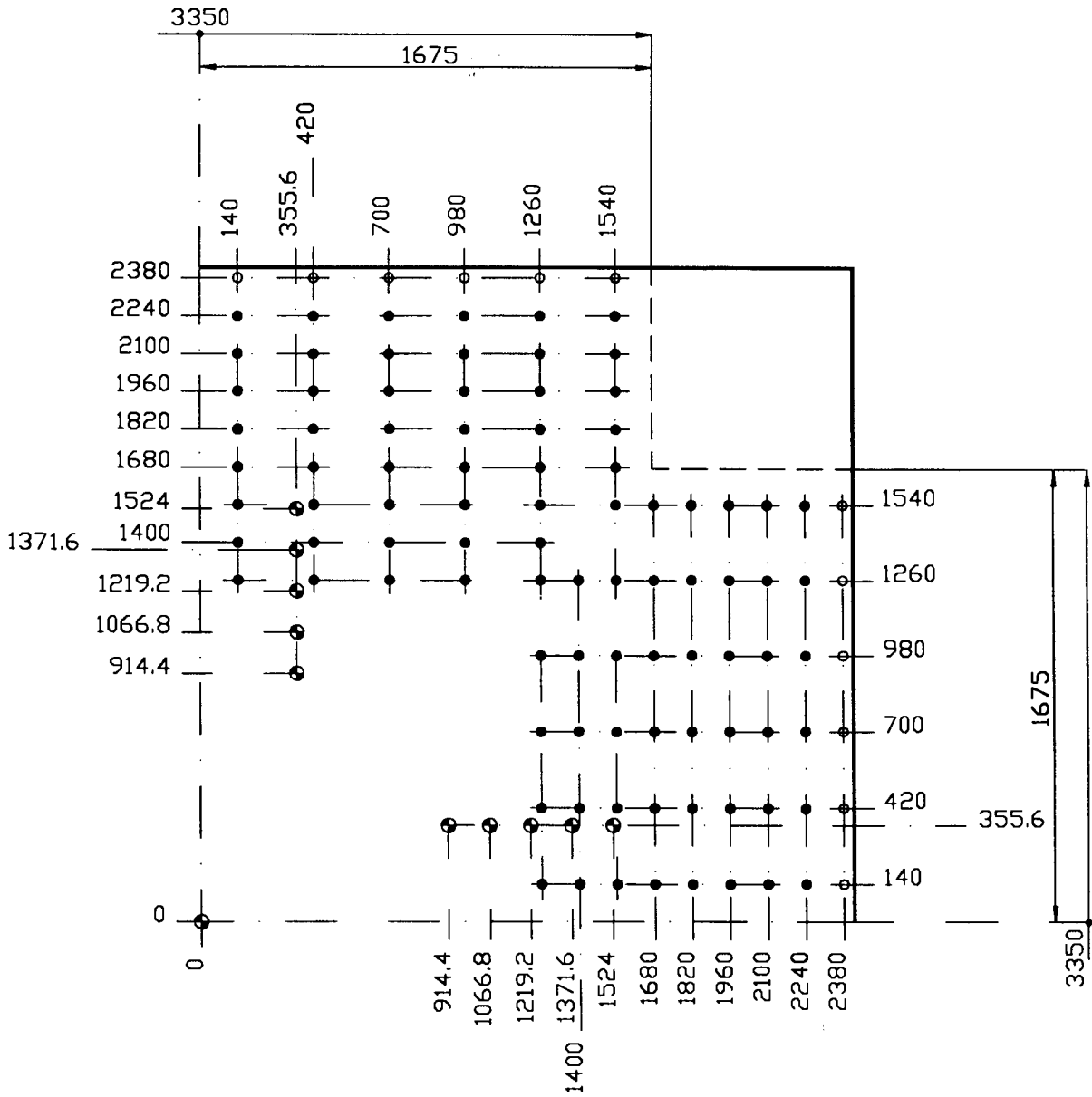
S 3350/3000



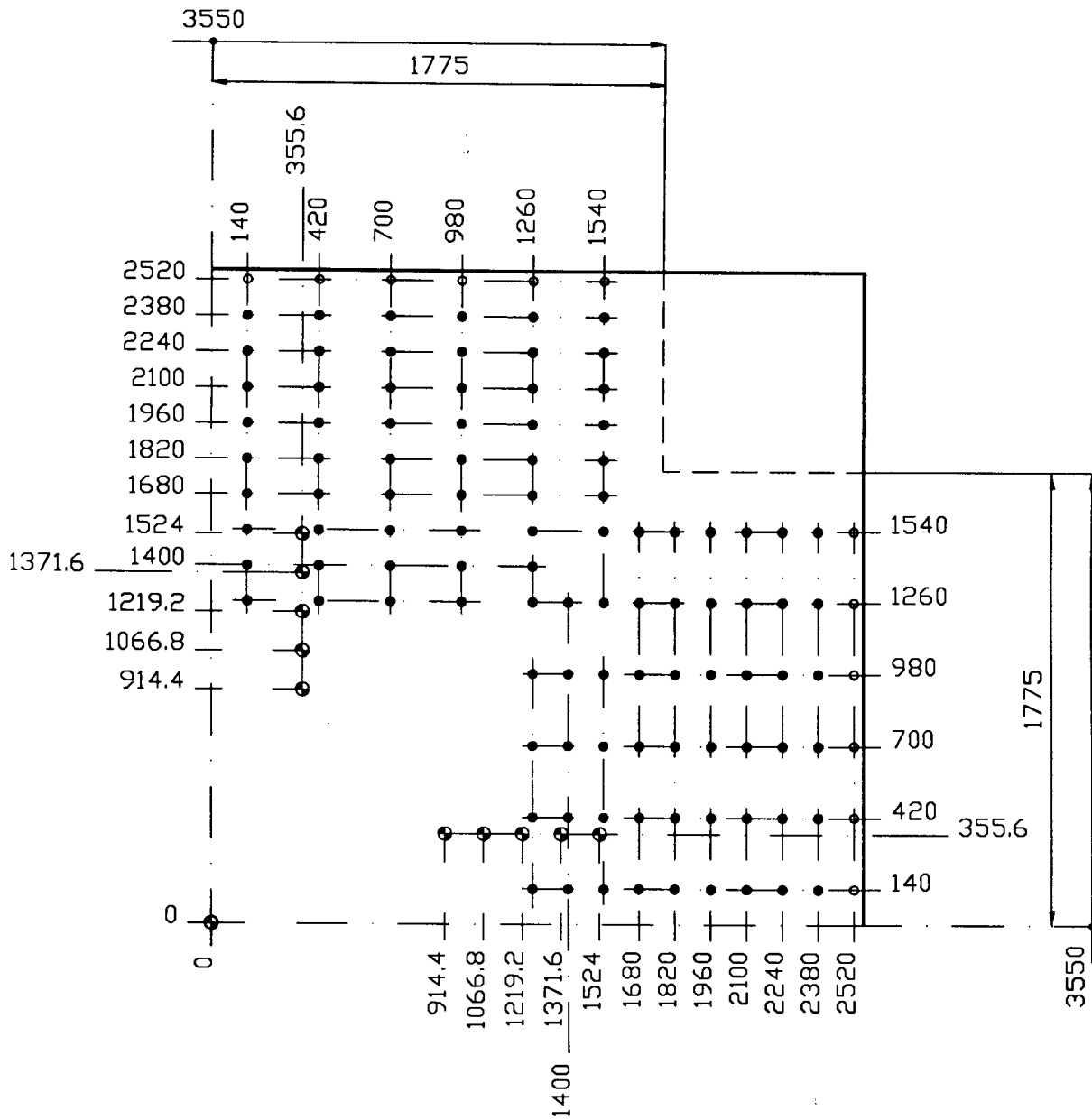
S 3150/3150



S 3350/3350

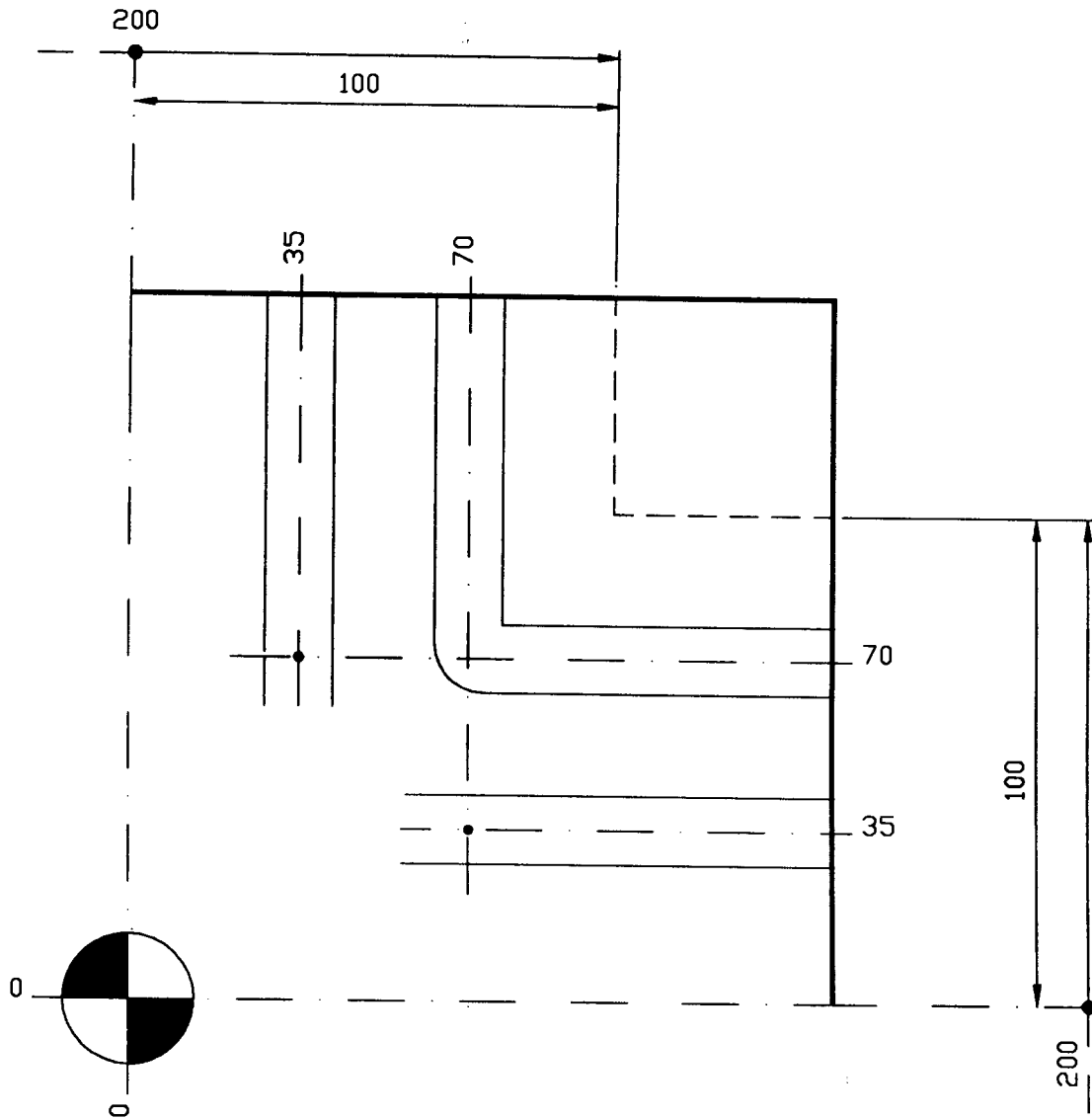


S 3550/3550

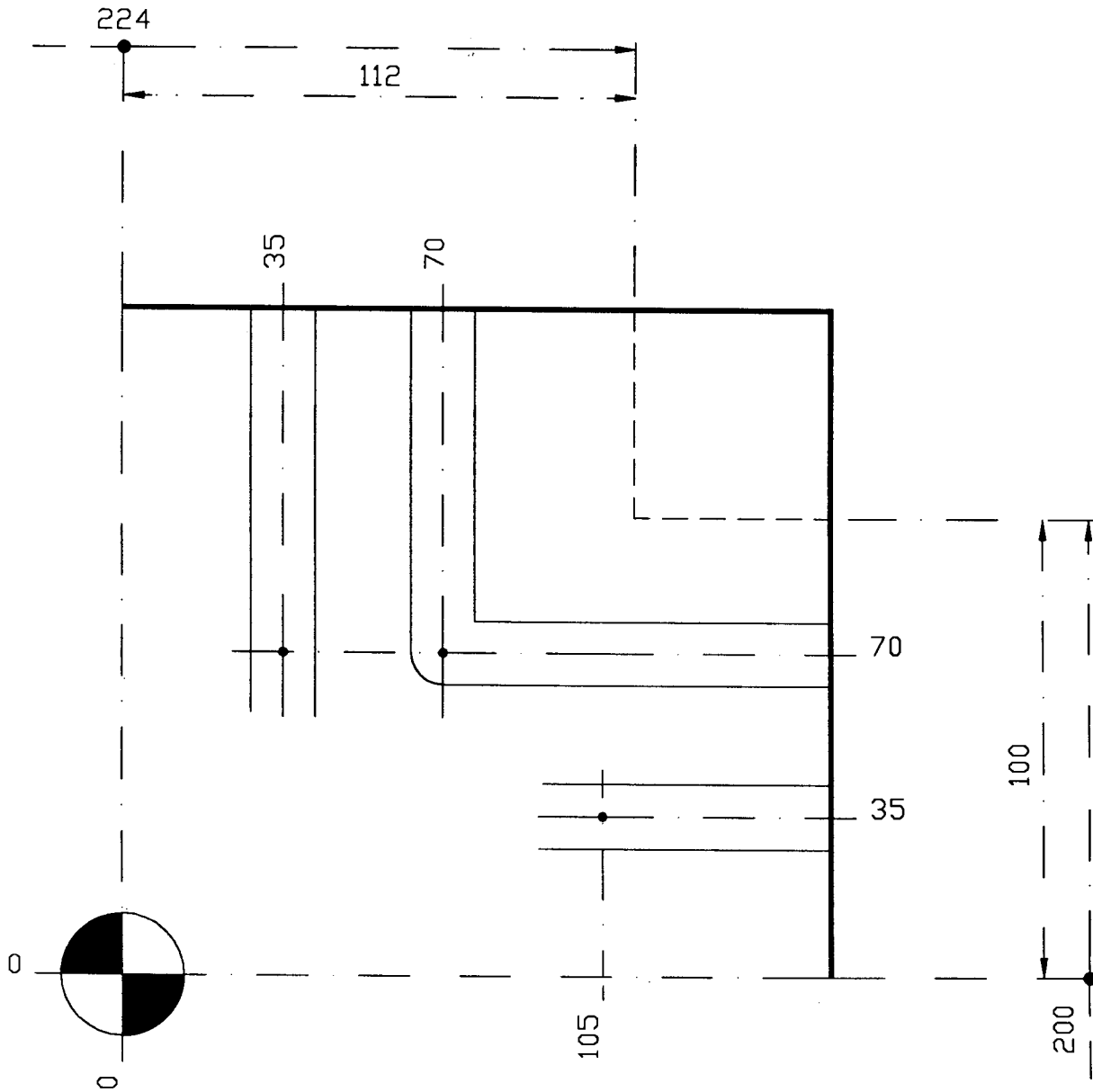


2.6 T-slot patterns

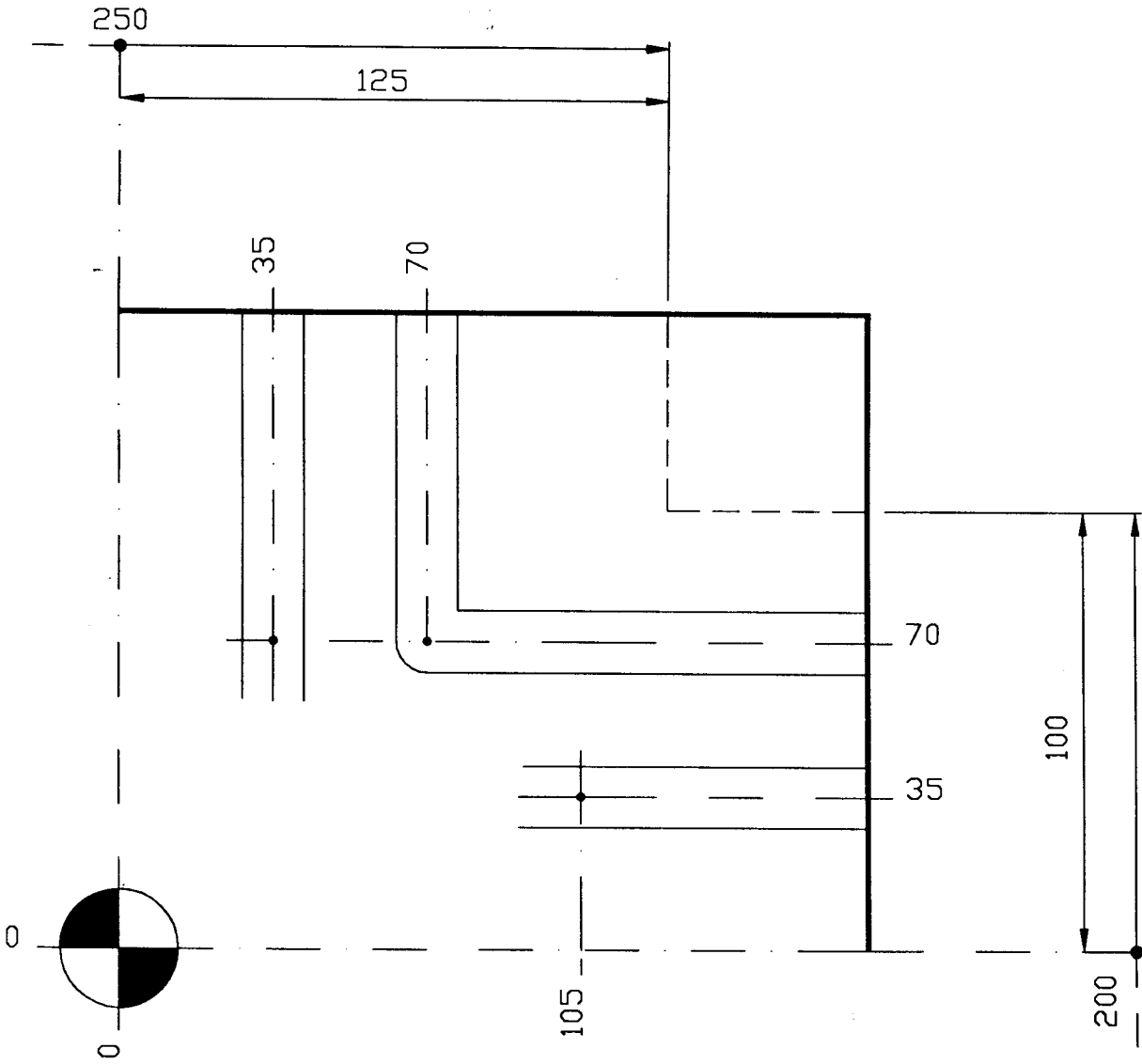
S 200/200



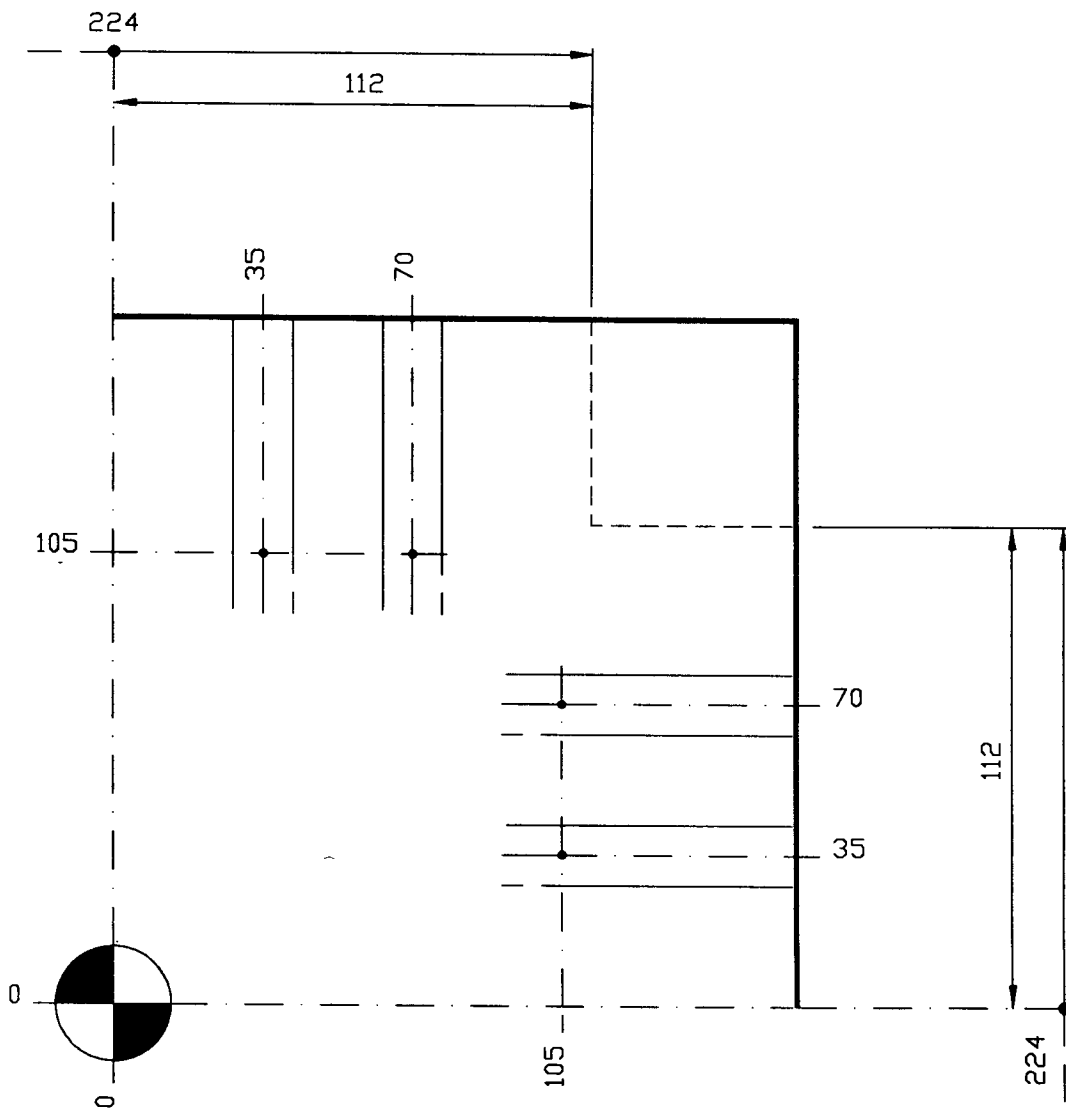
S 224/200



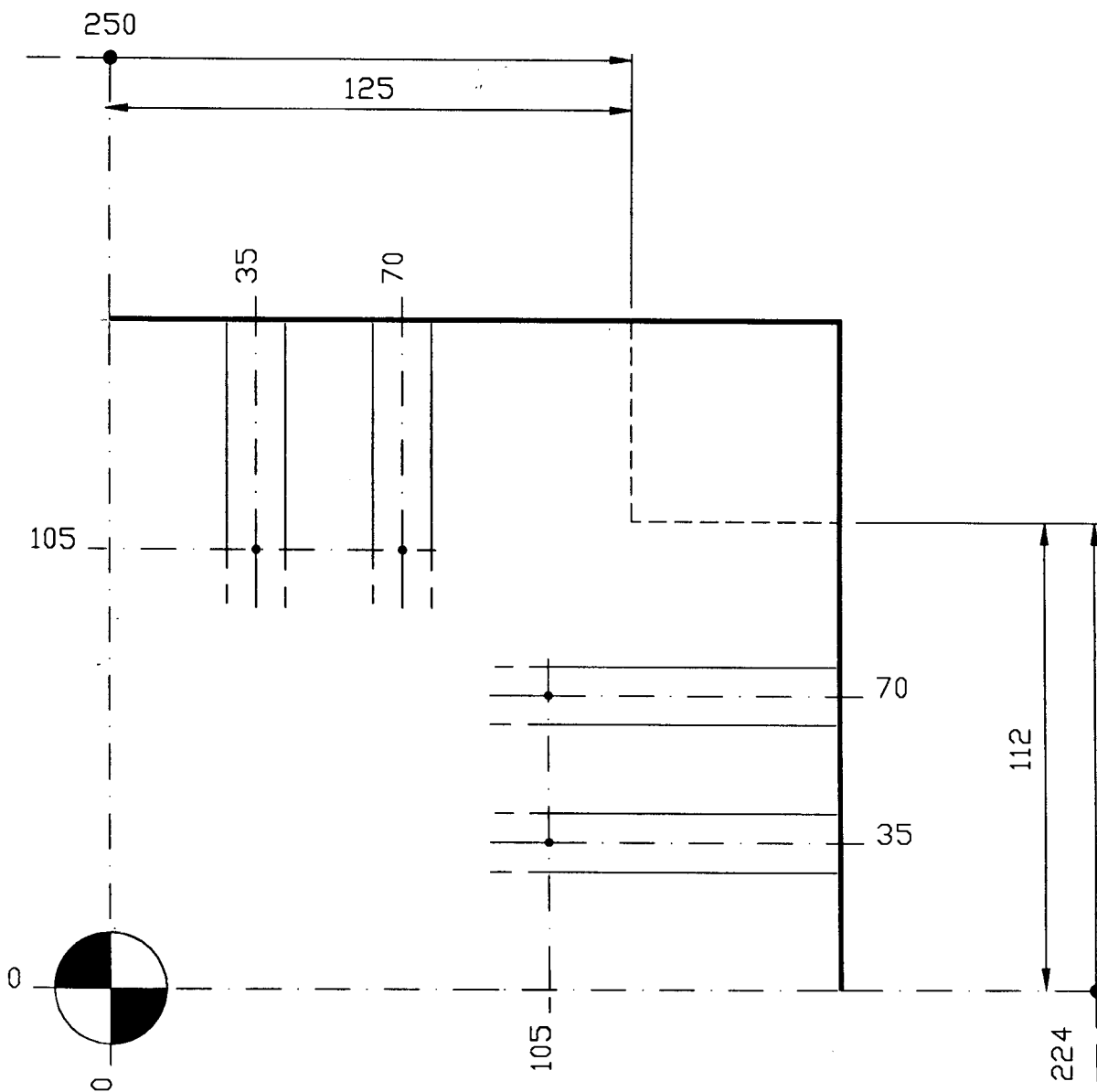
S 250/200



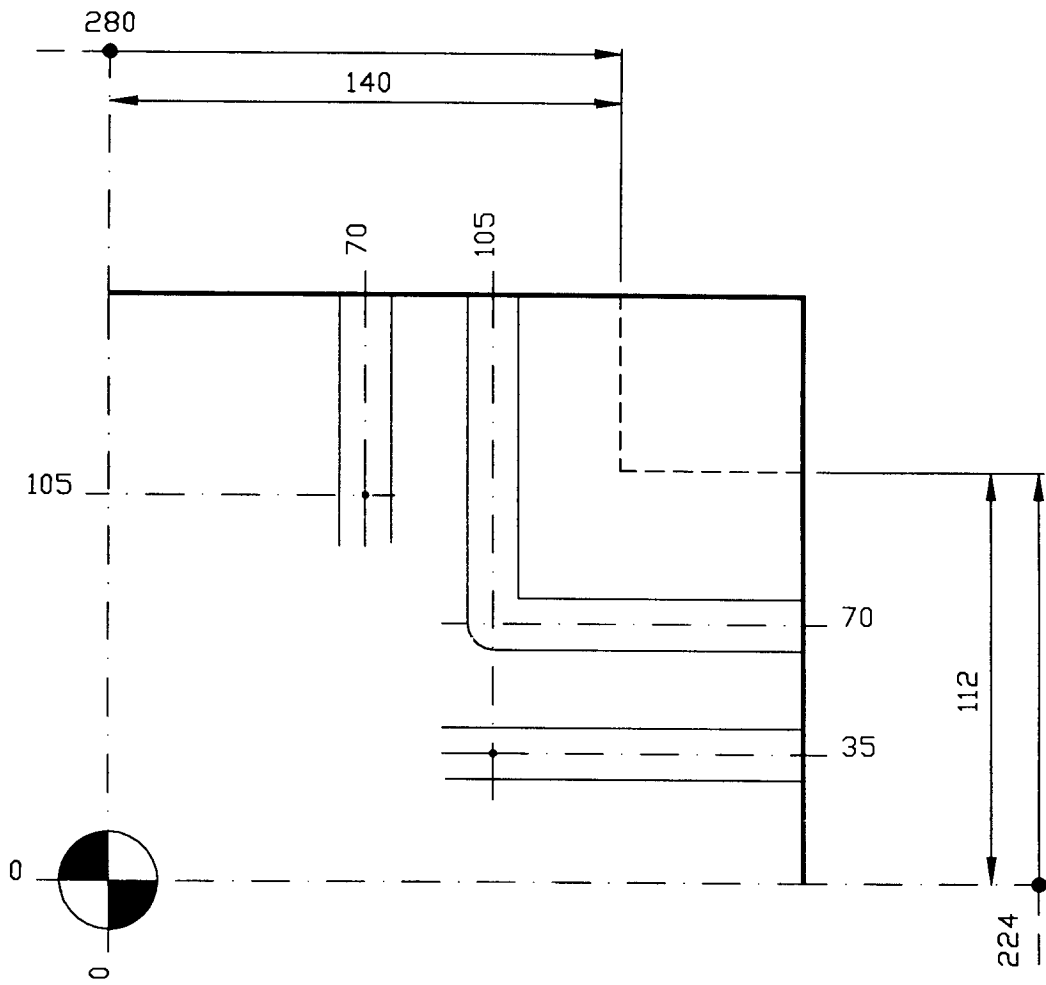
S 224/224



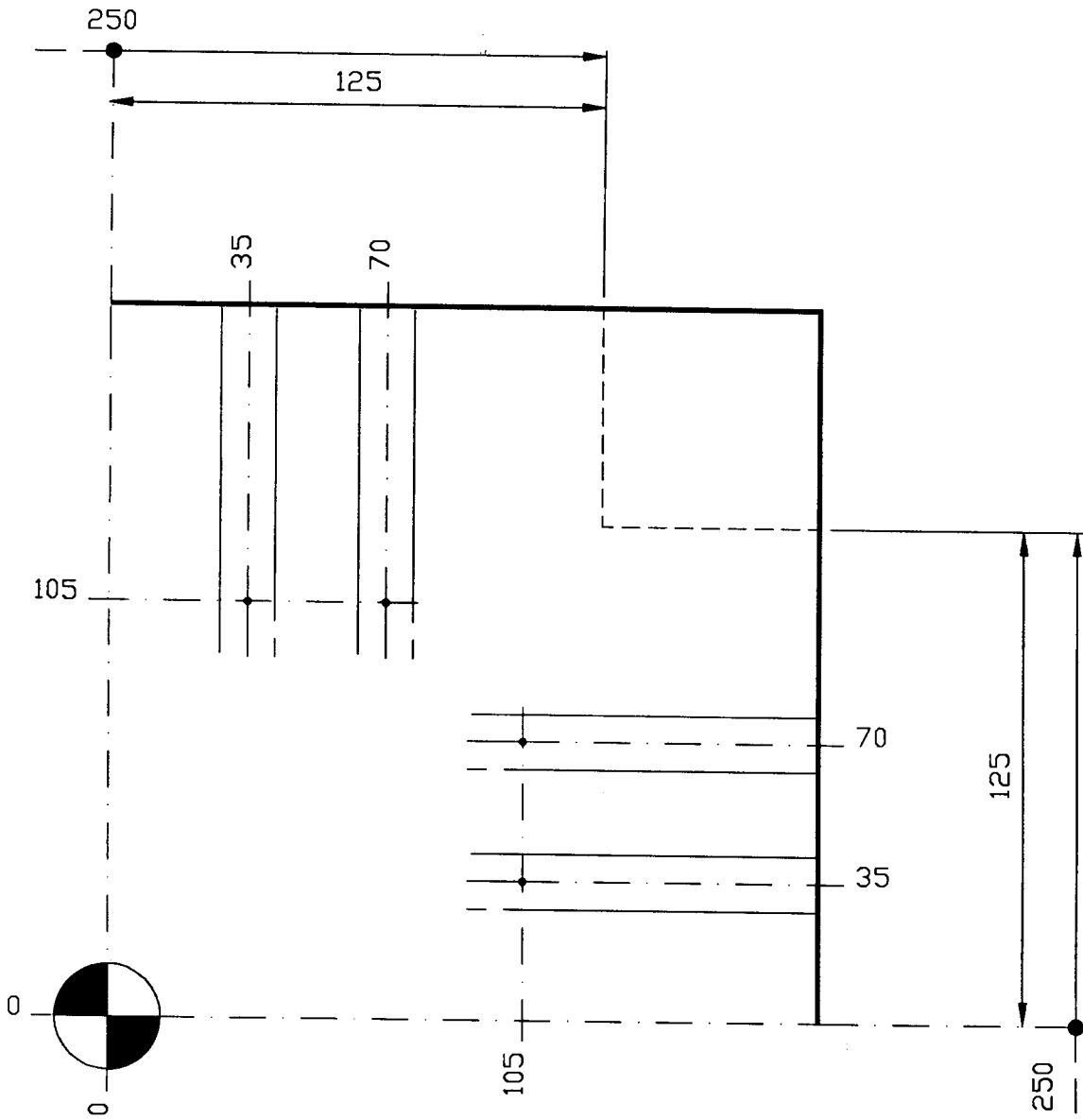
S 250/224



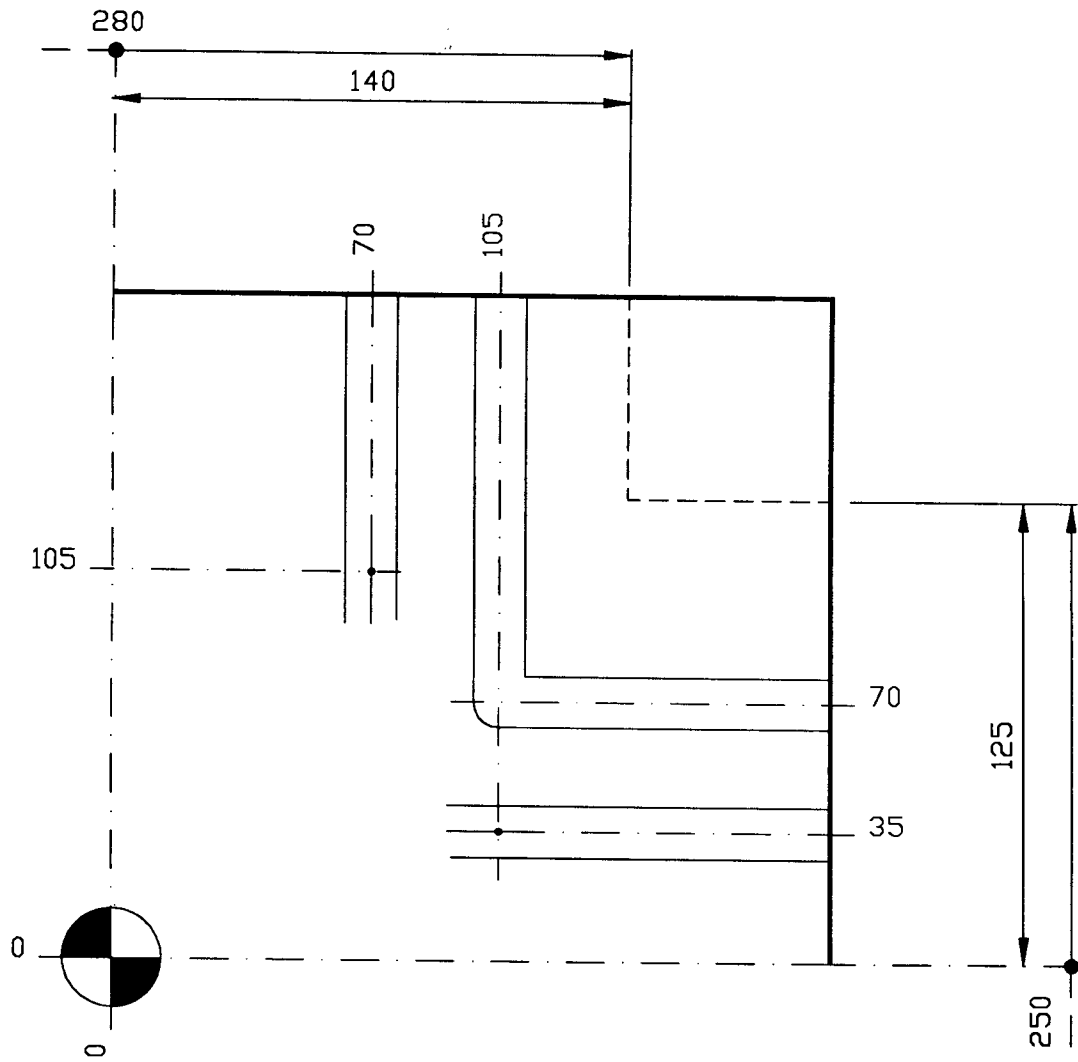
S 280/224



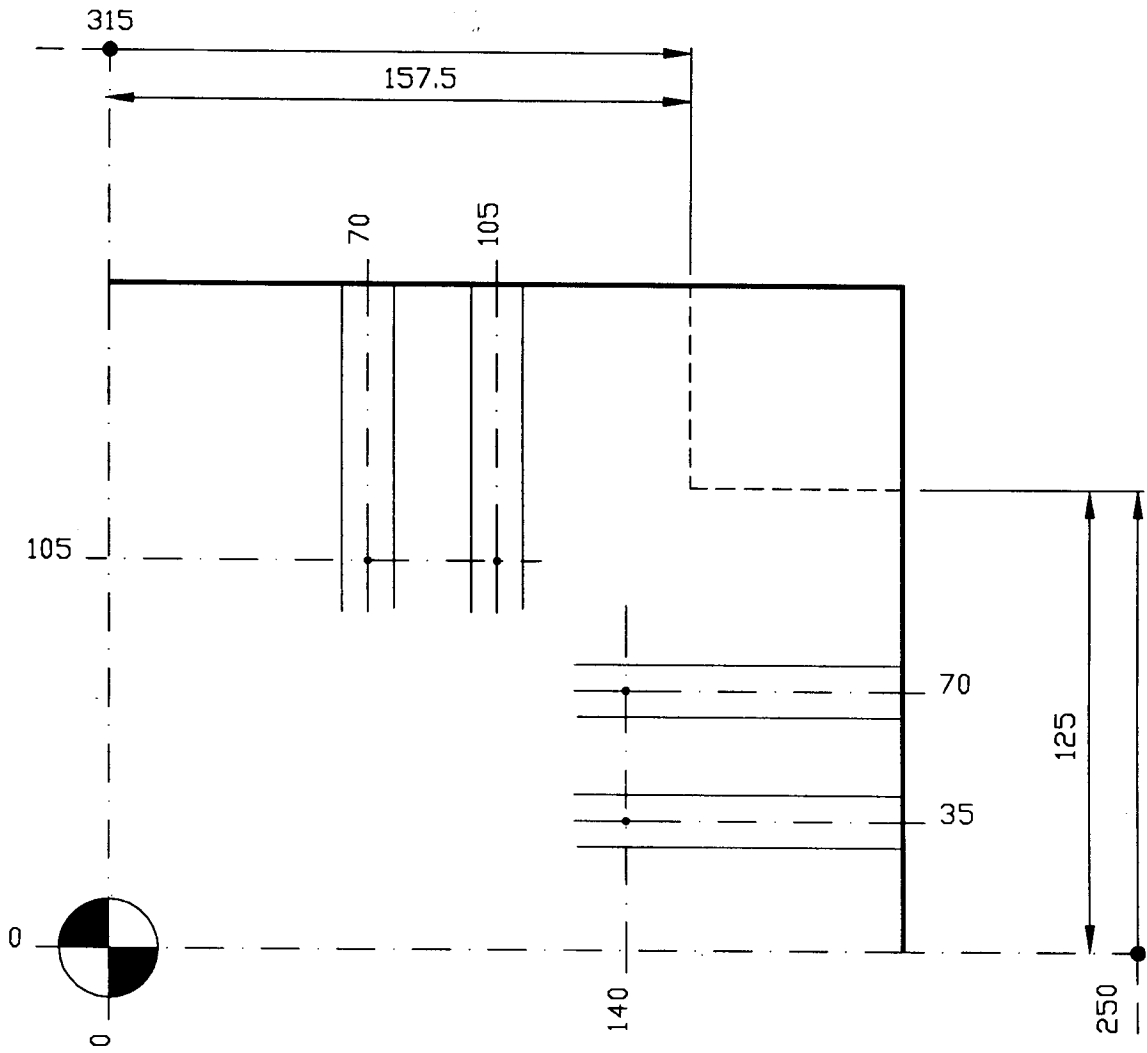
S 250/250



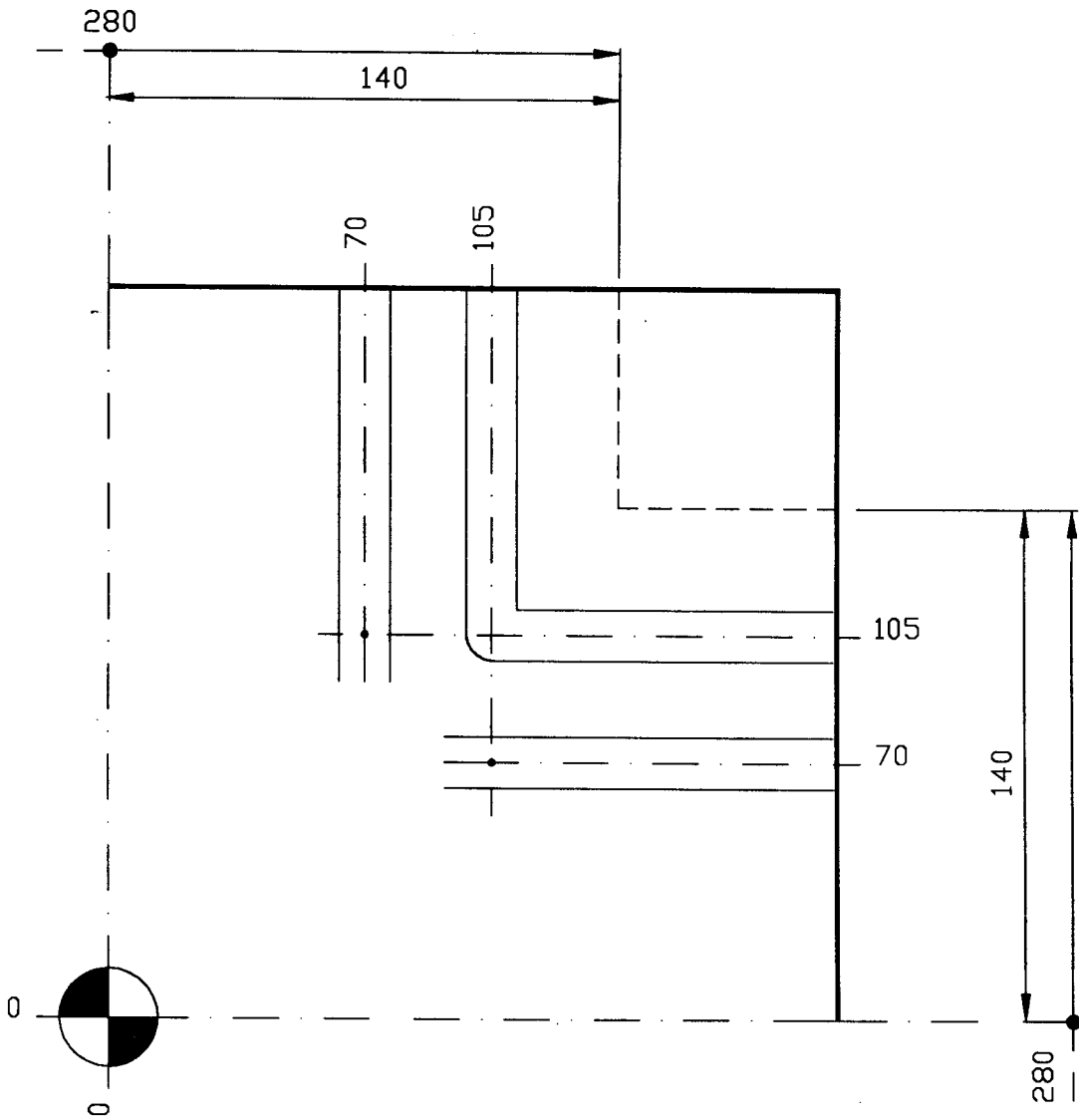
S 280/250



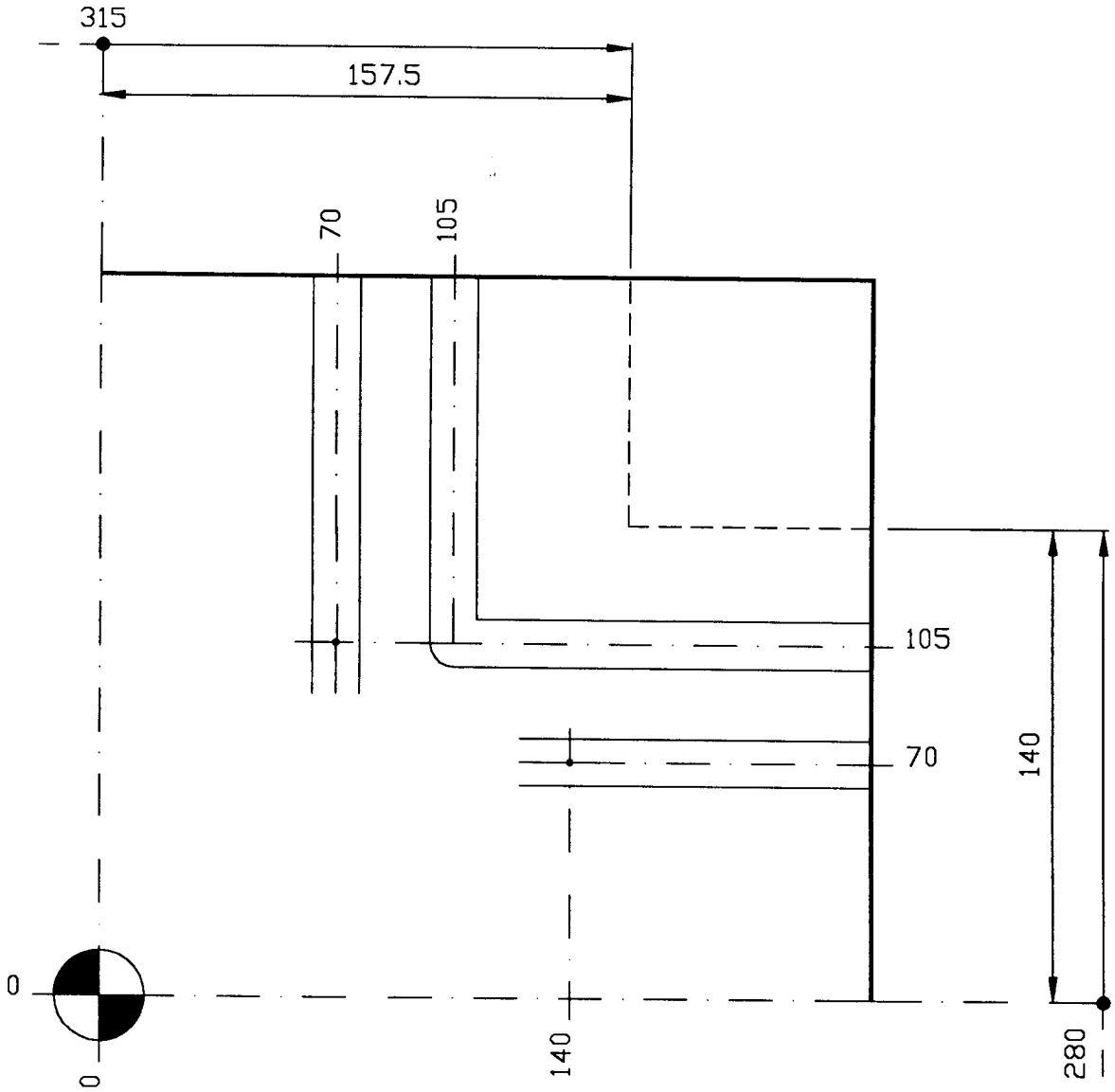
S 315/250



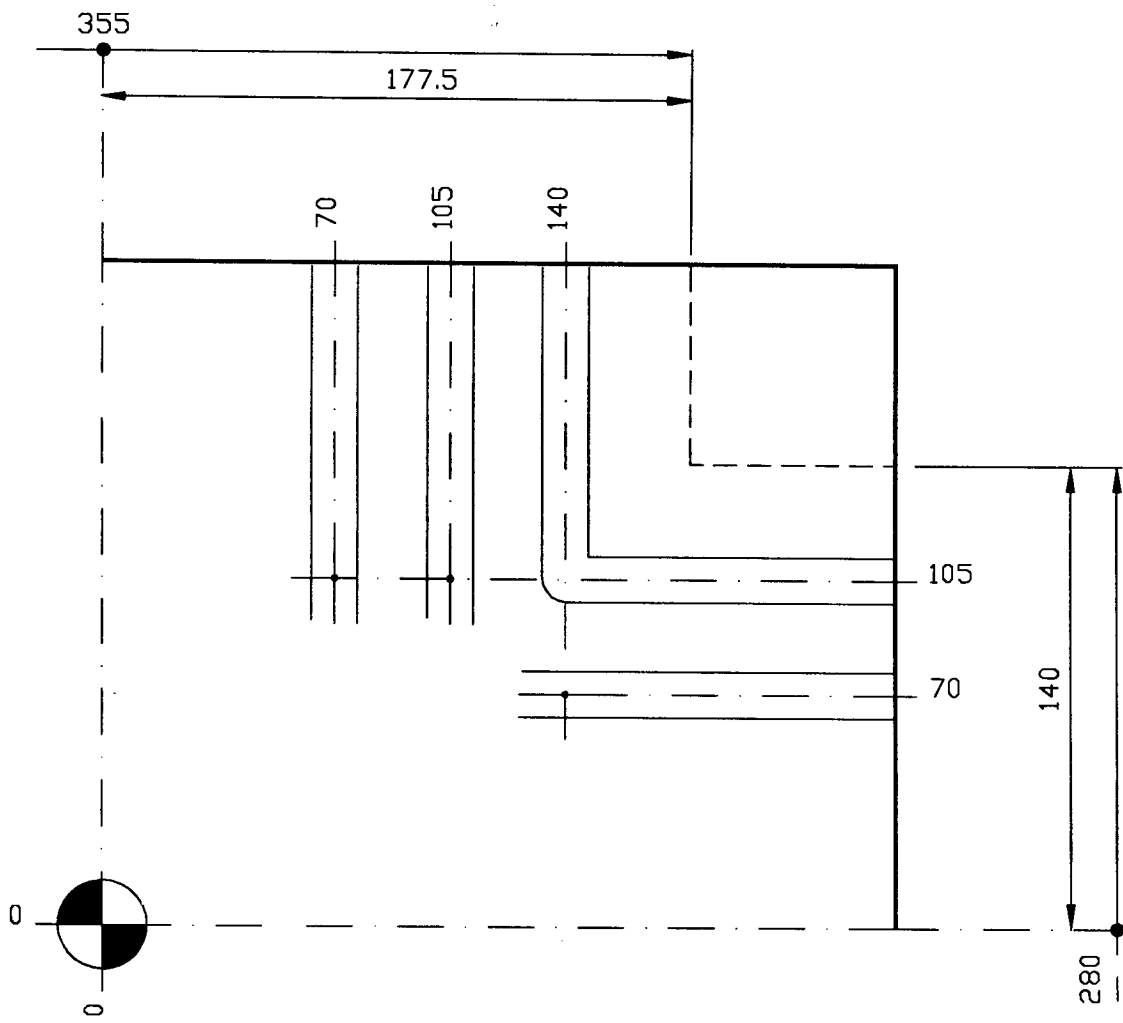
S 280/280



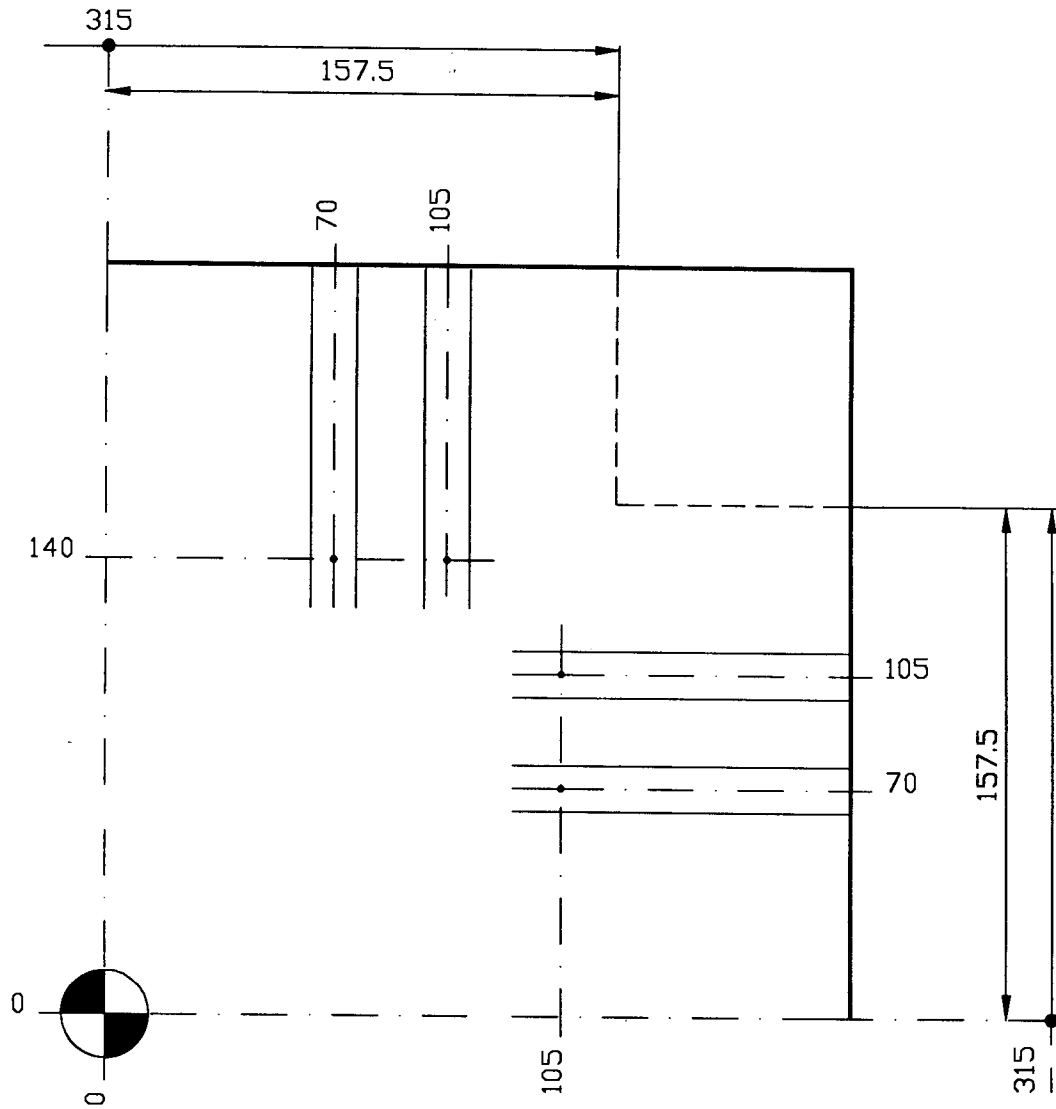
S 315/280



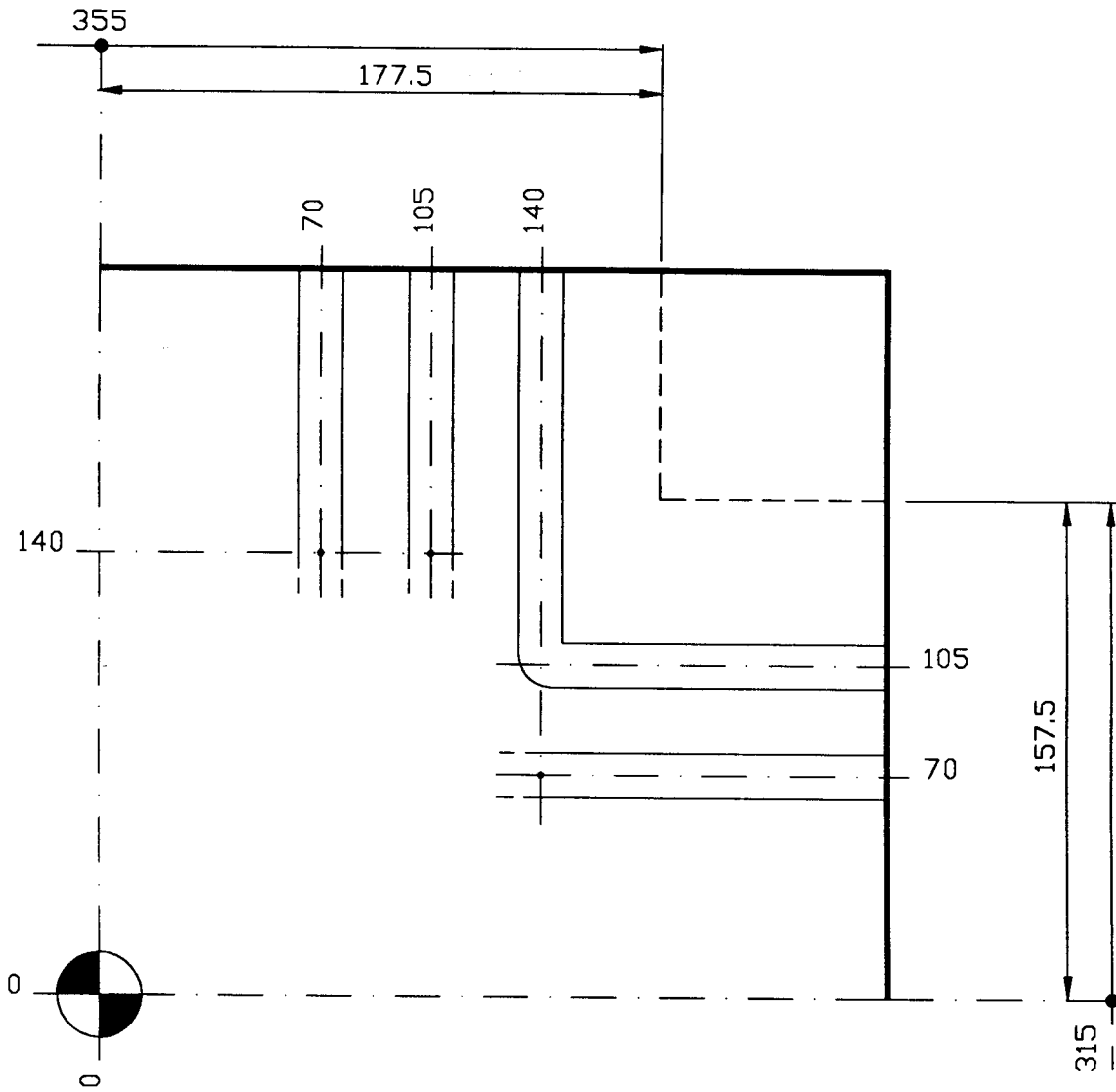
S 355/280



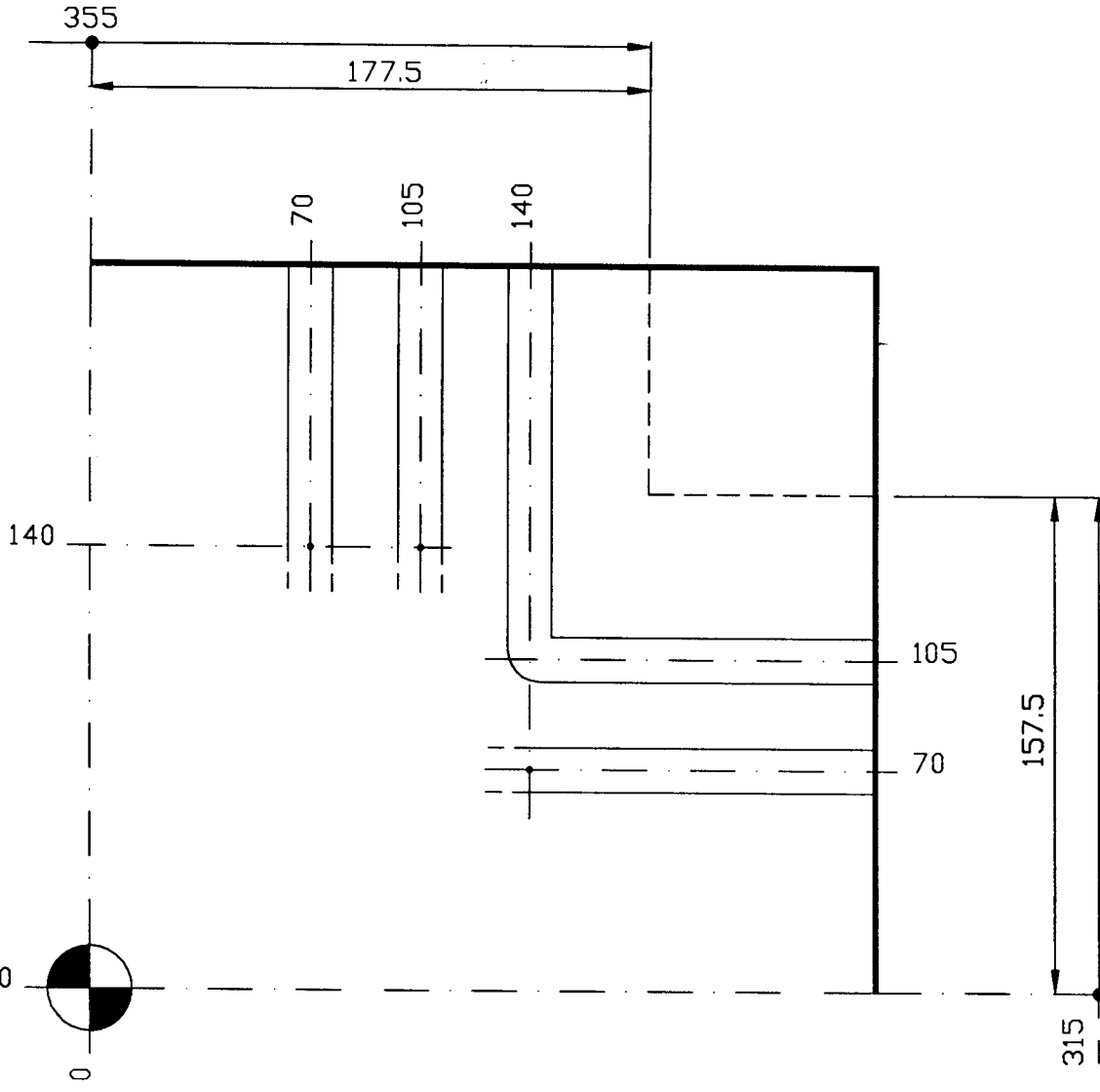
S 315/315



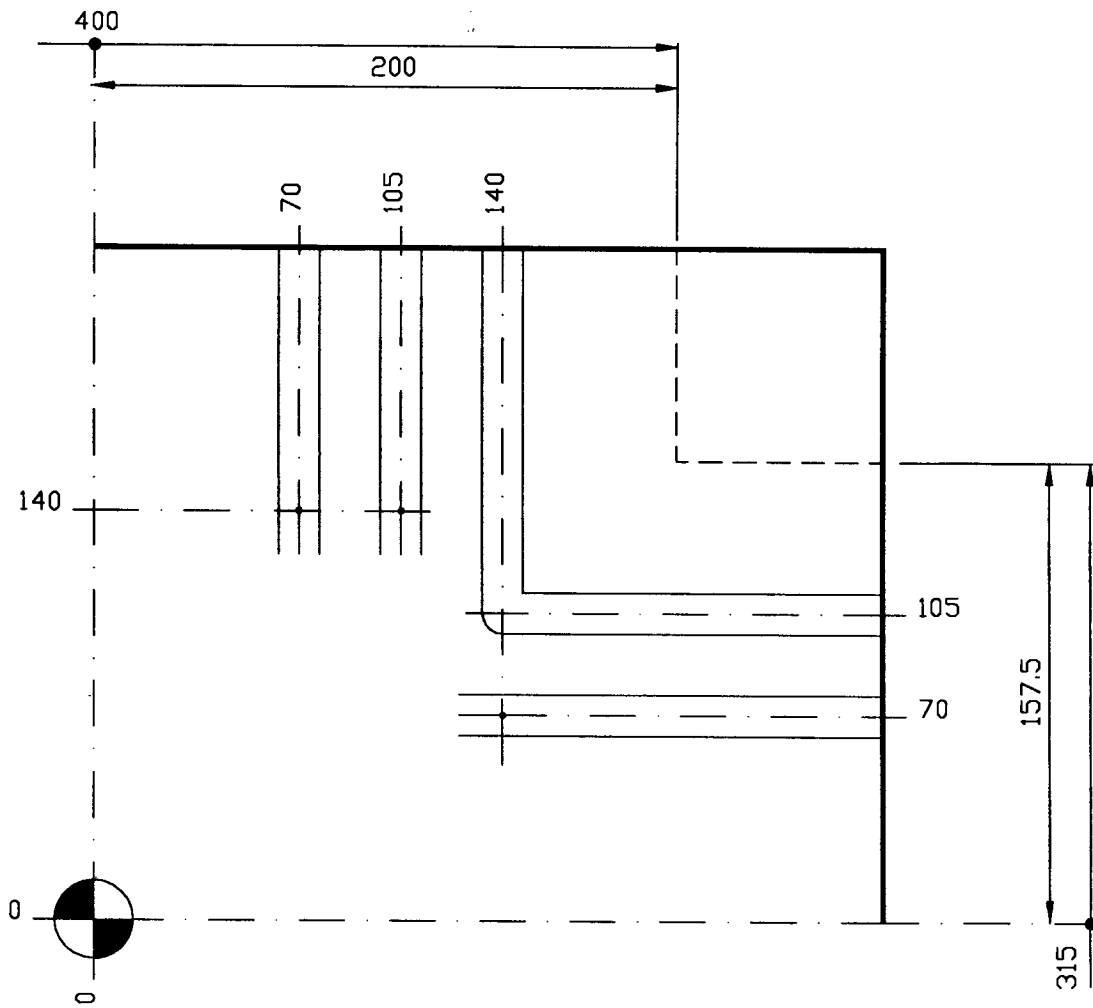
S 355/315



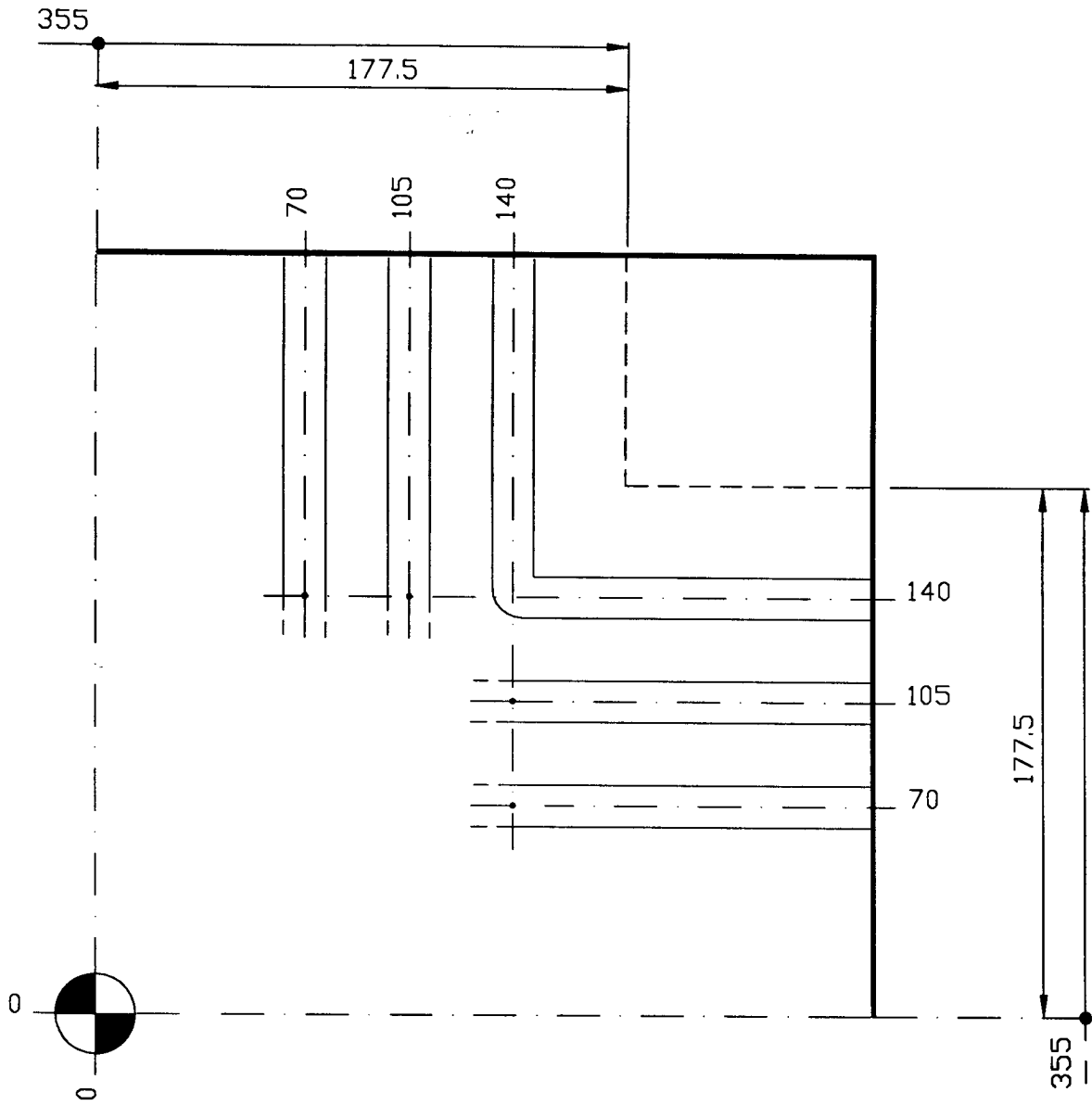
S 355/315



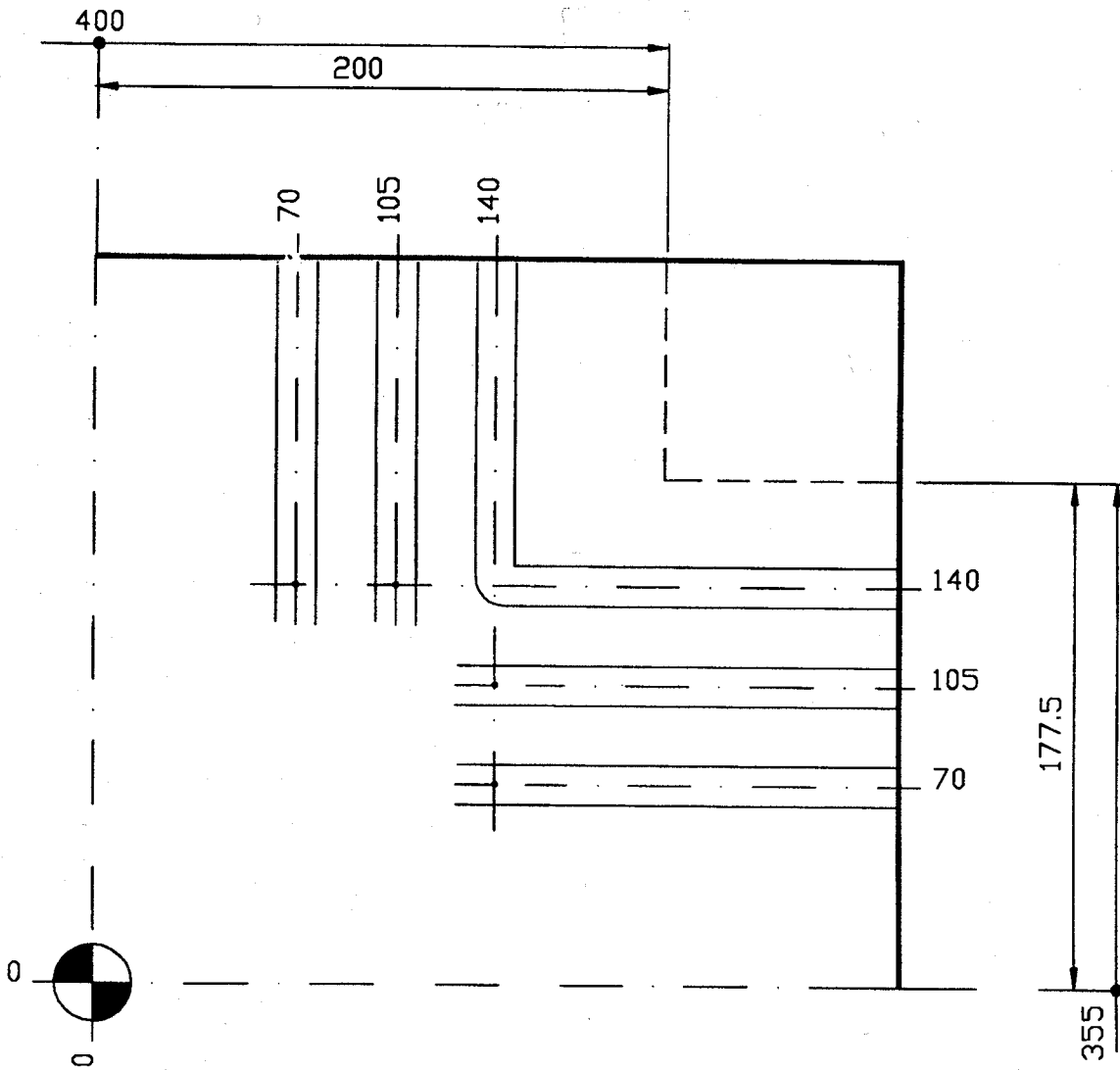
S 400/315



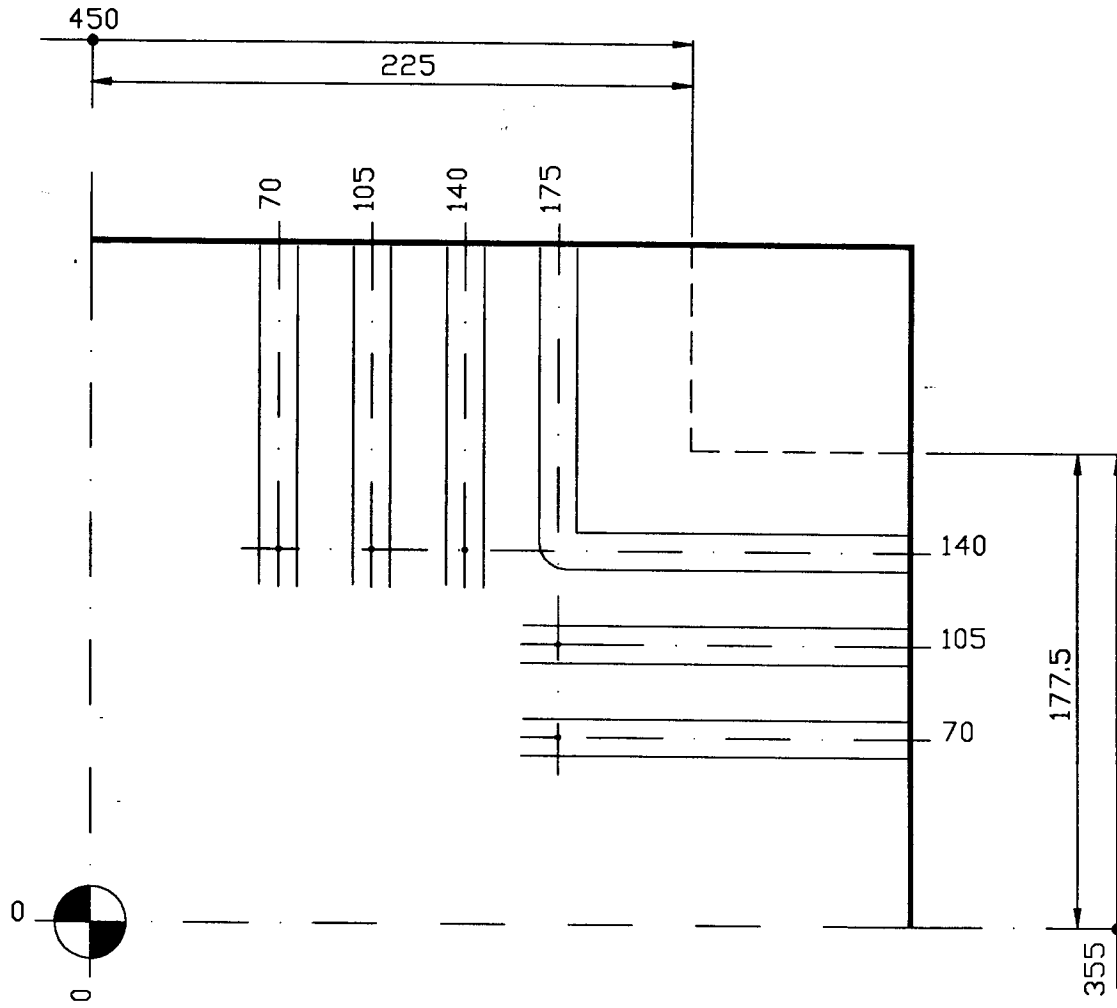
S 355/355



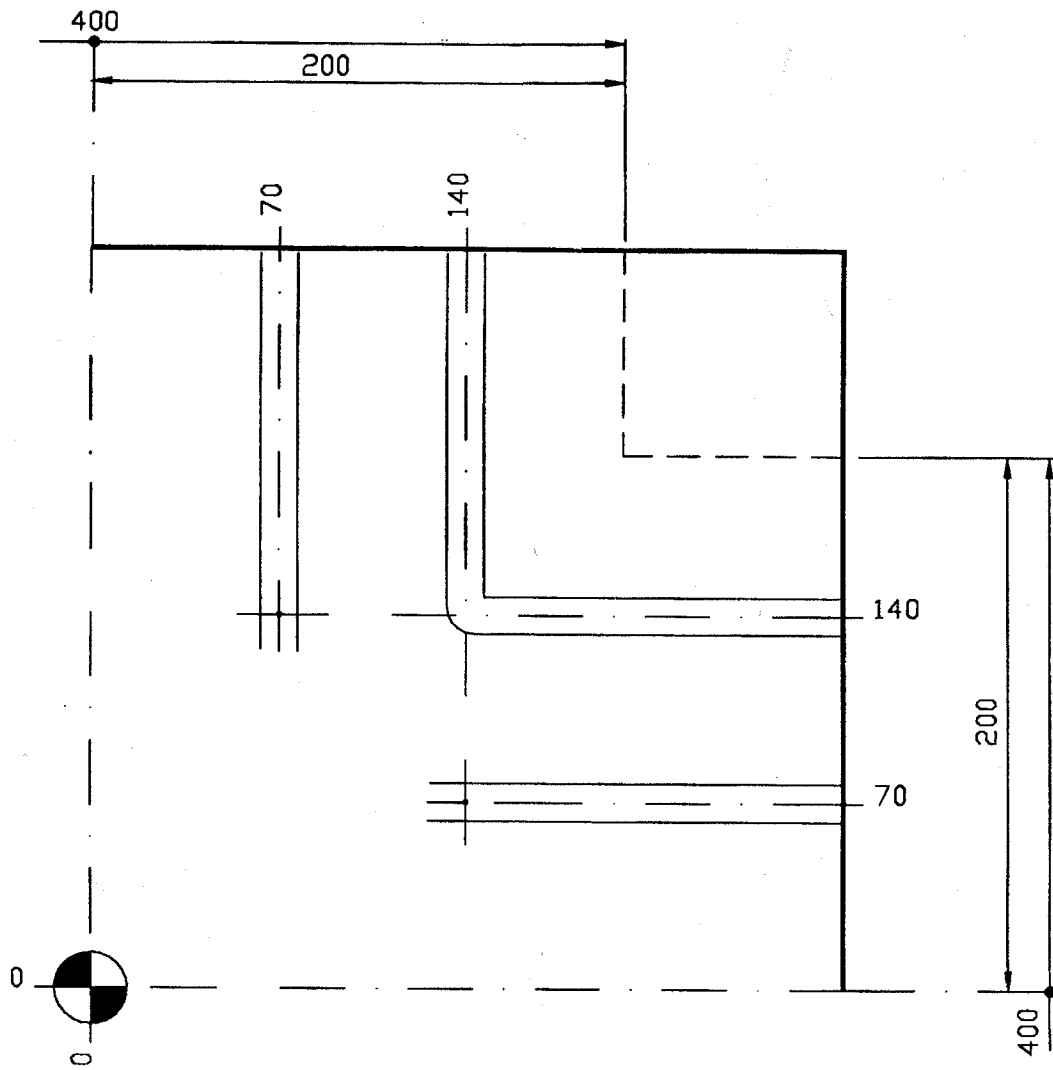
S 400/355



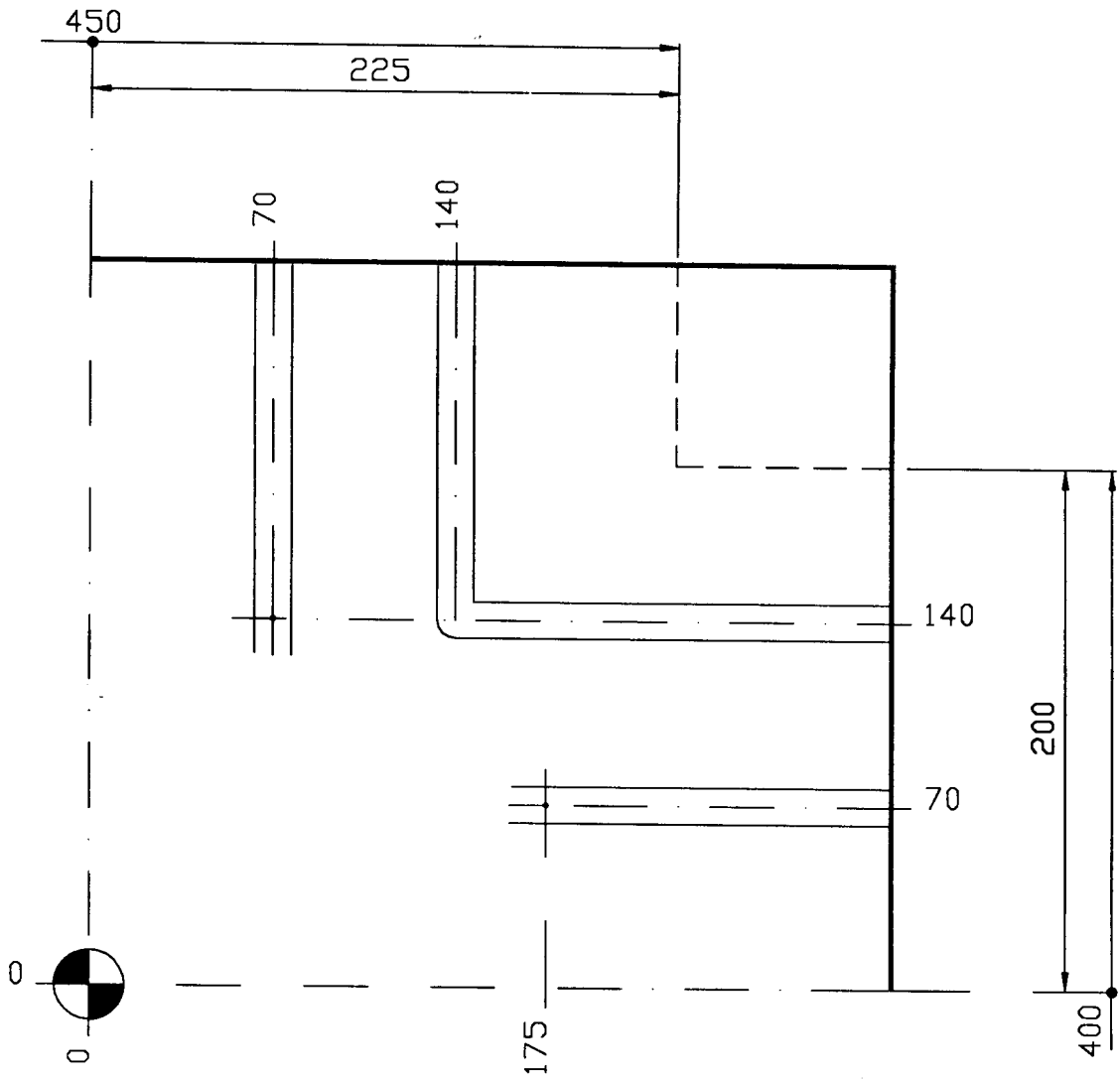
S 450/355



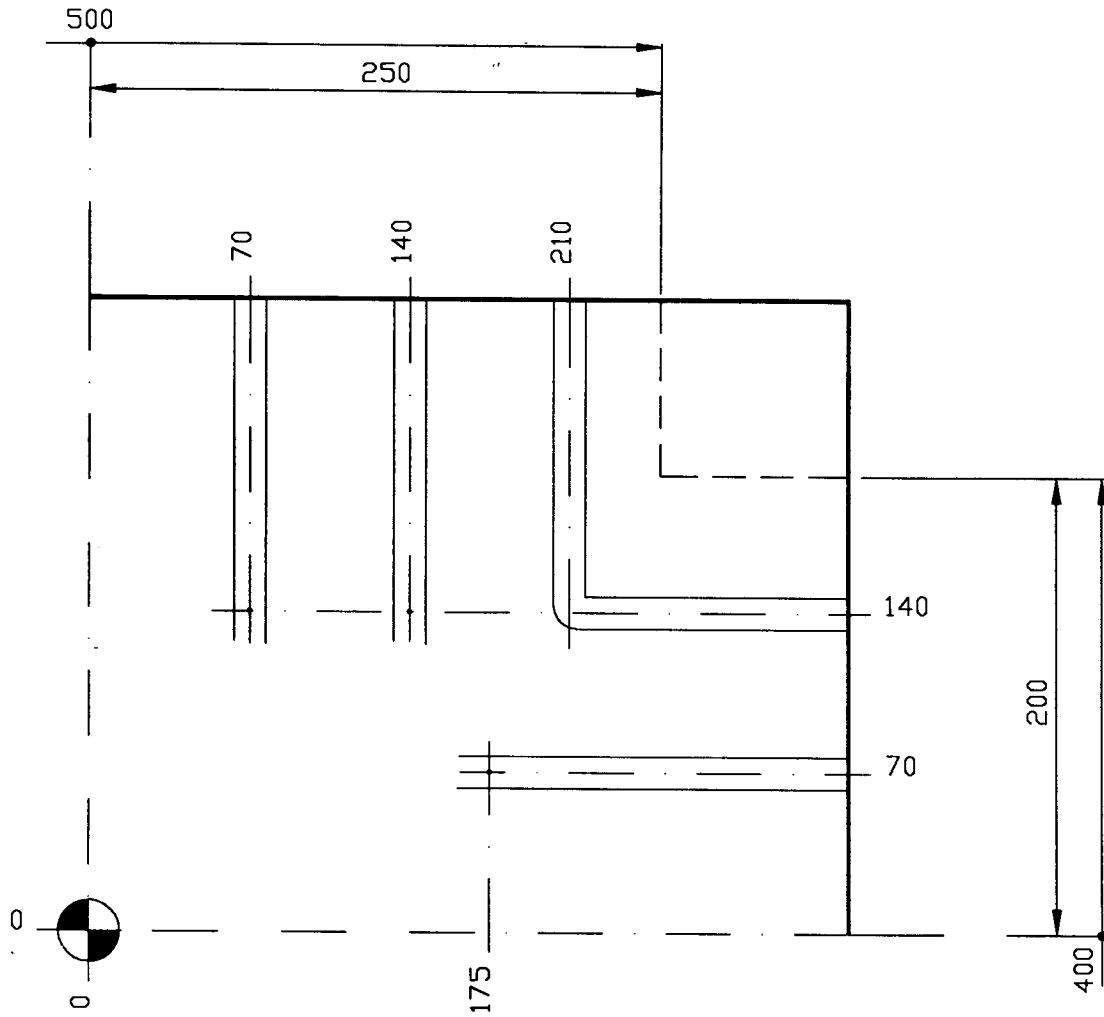
S 400/400



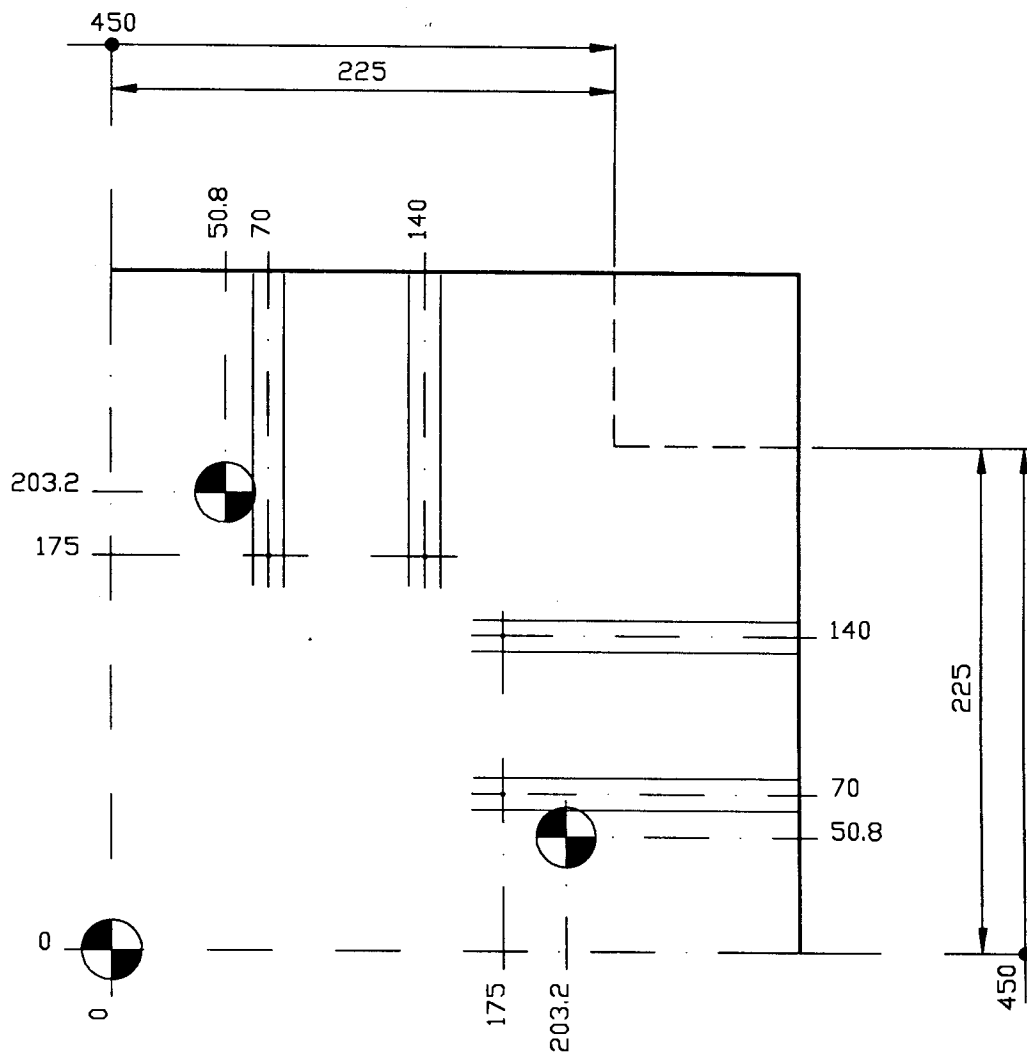
S 450/400



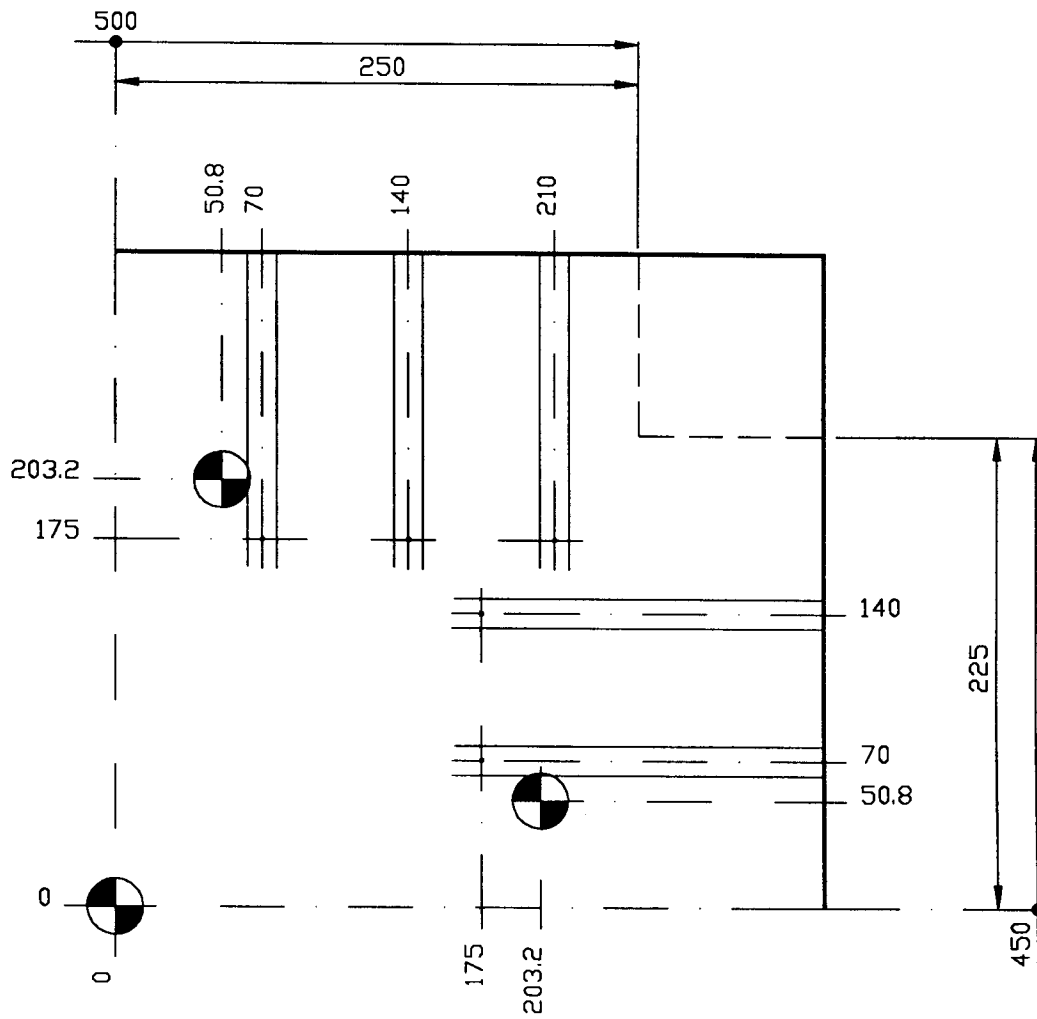
S 500/400



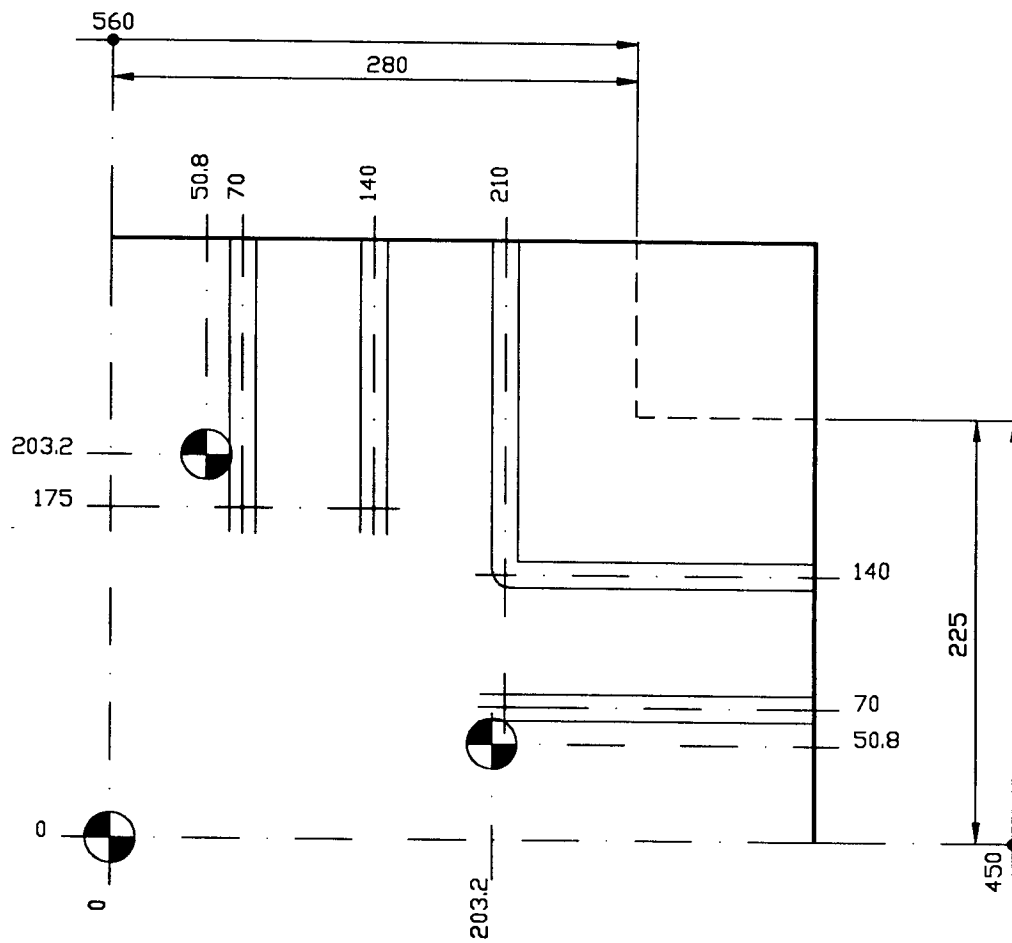
S 450/450



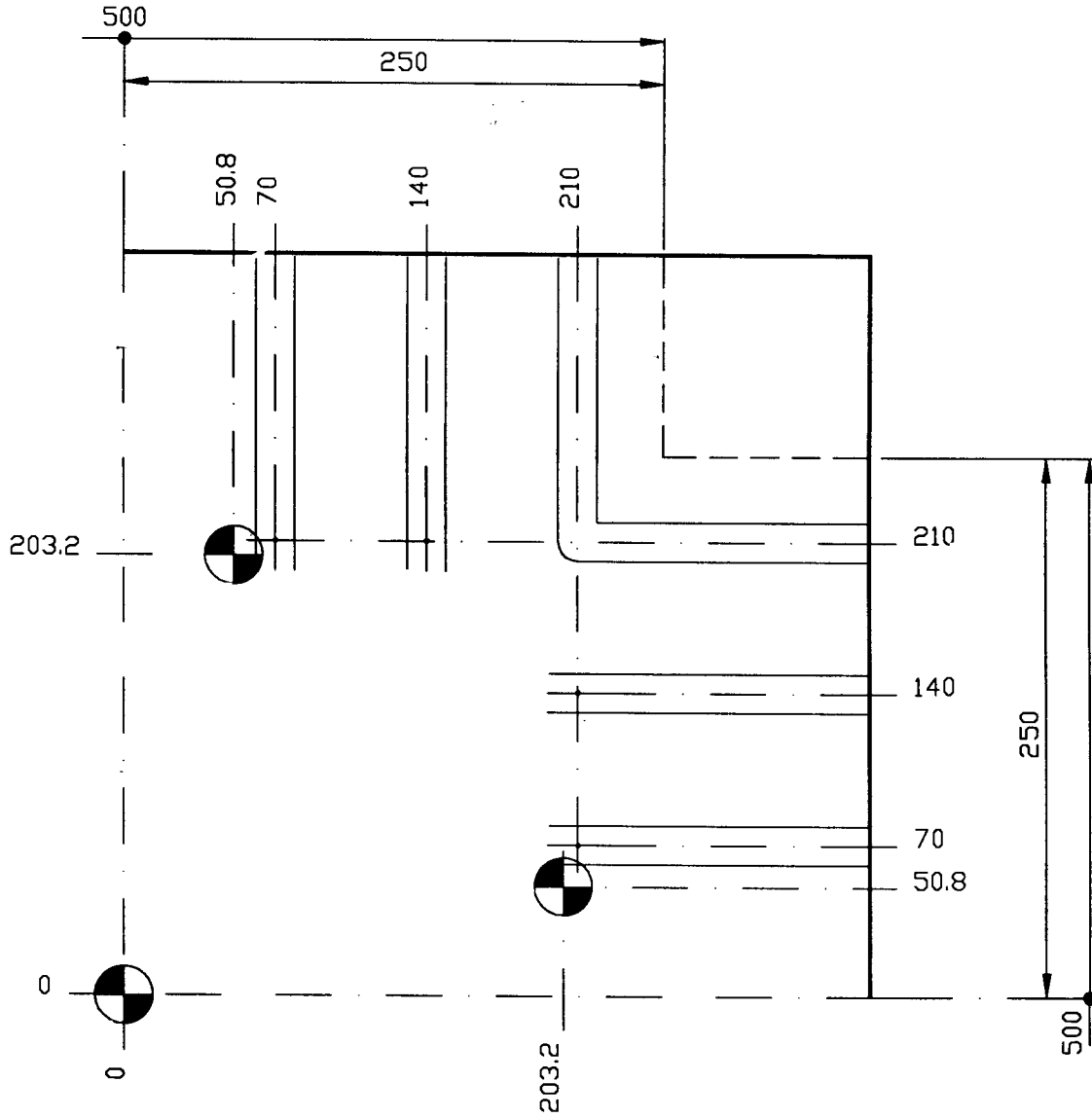
S 500/450



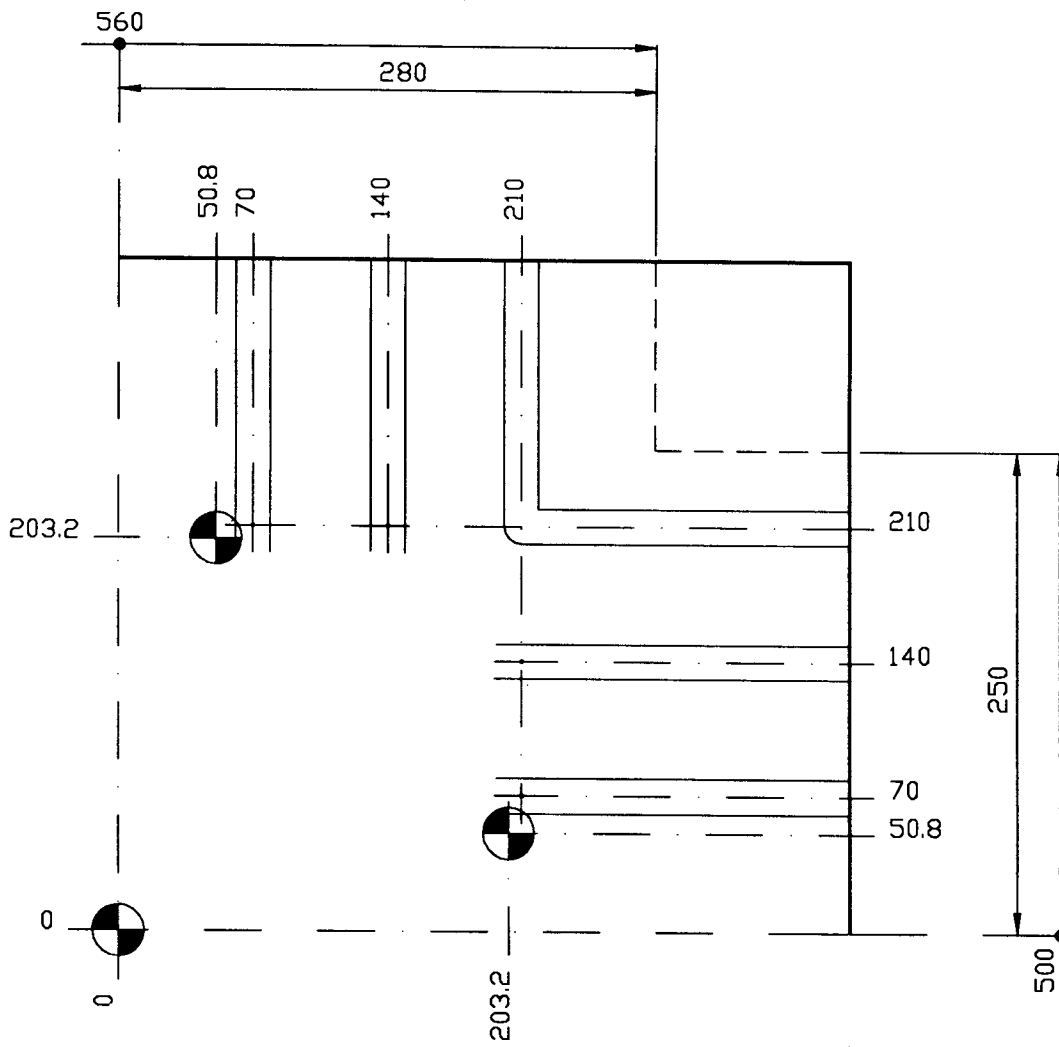
S 560/450



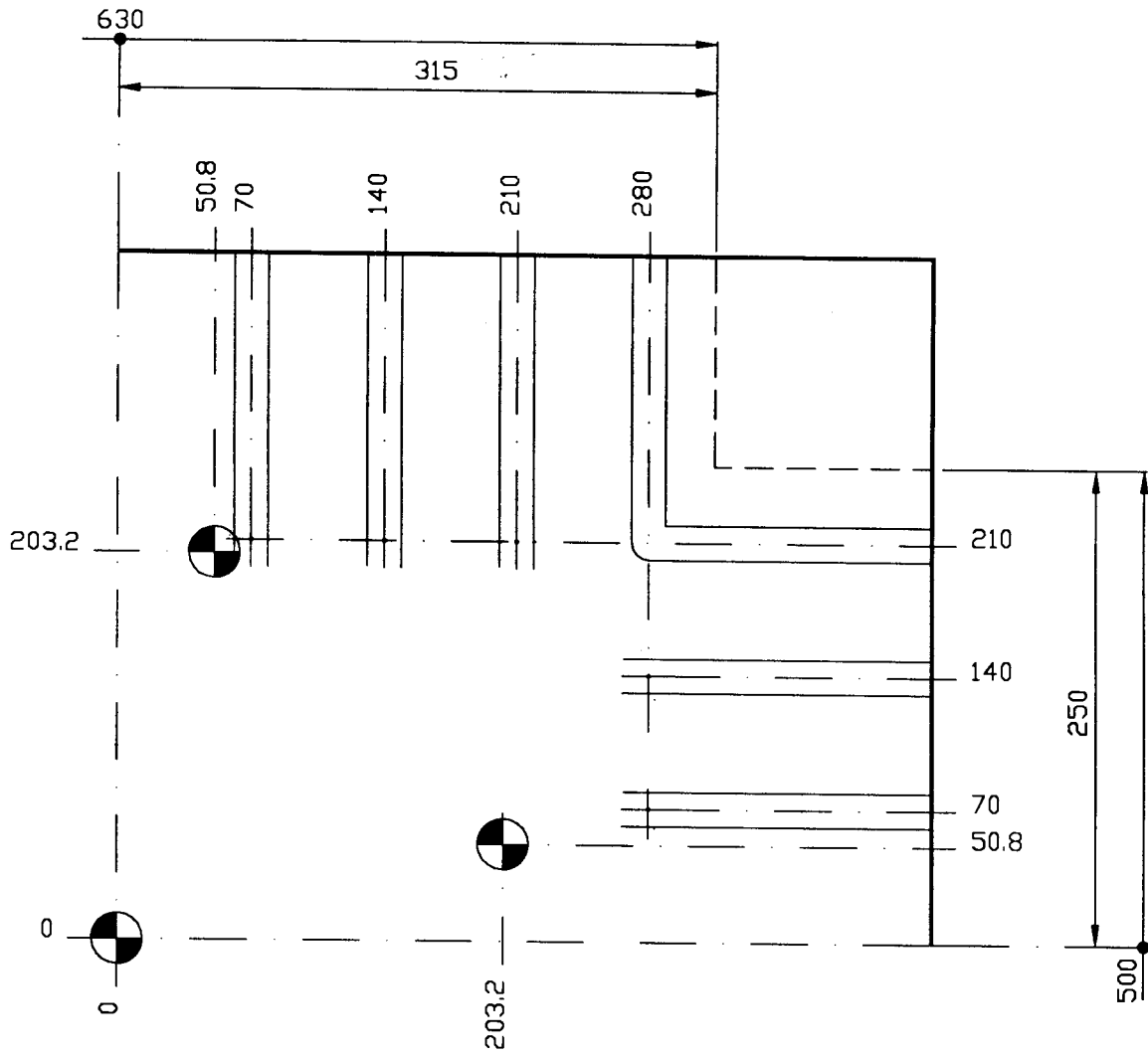
S 500/500



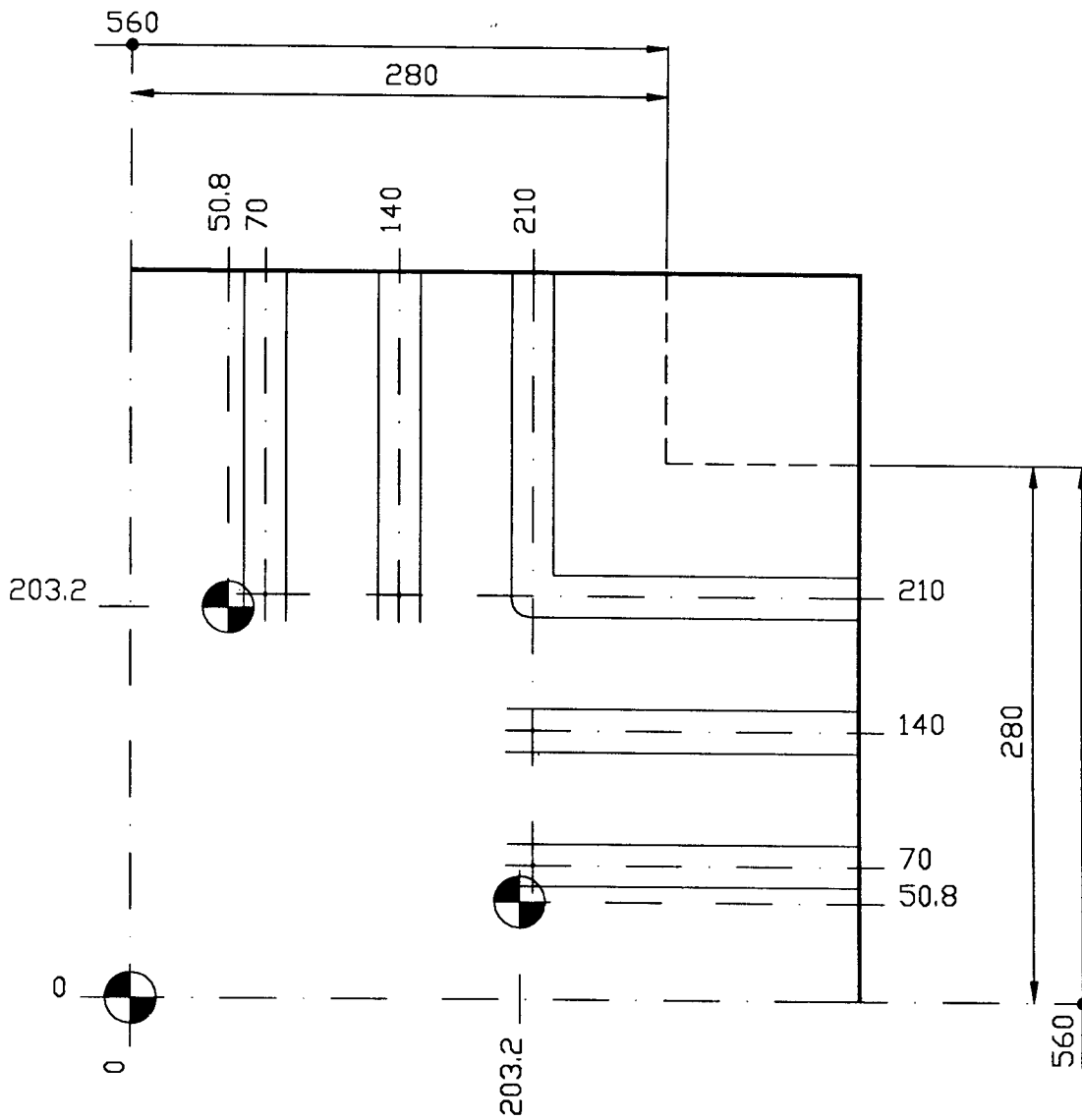
S 560/500



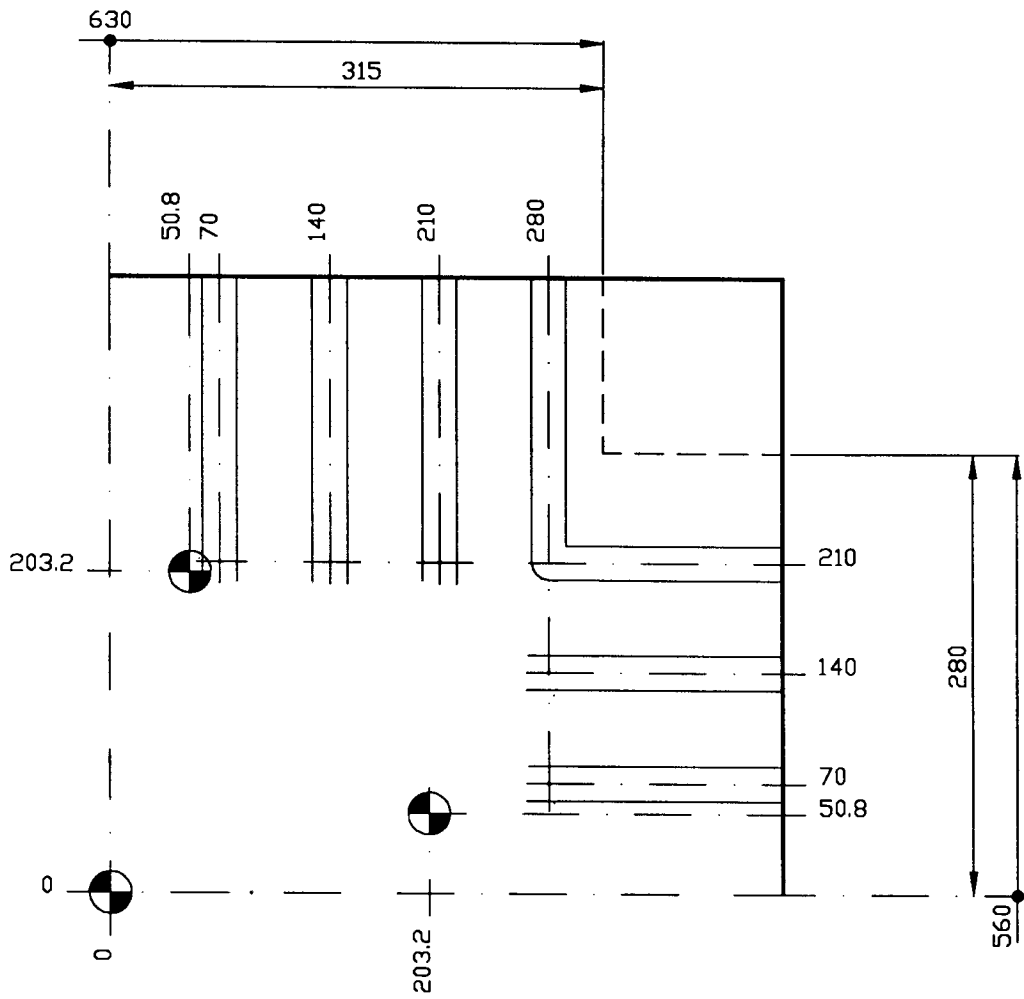
S 630/500



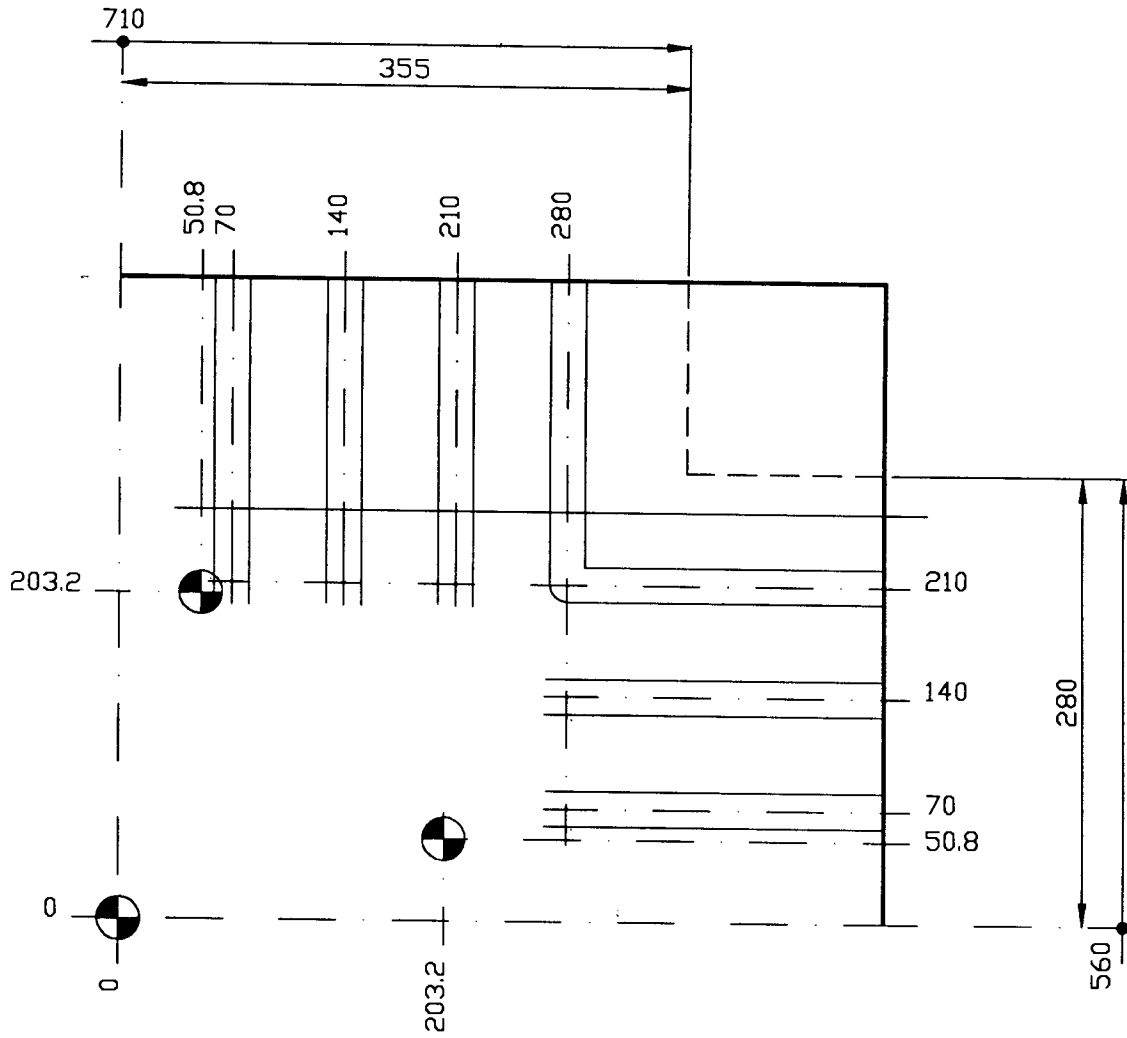
S 560/560



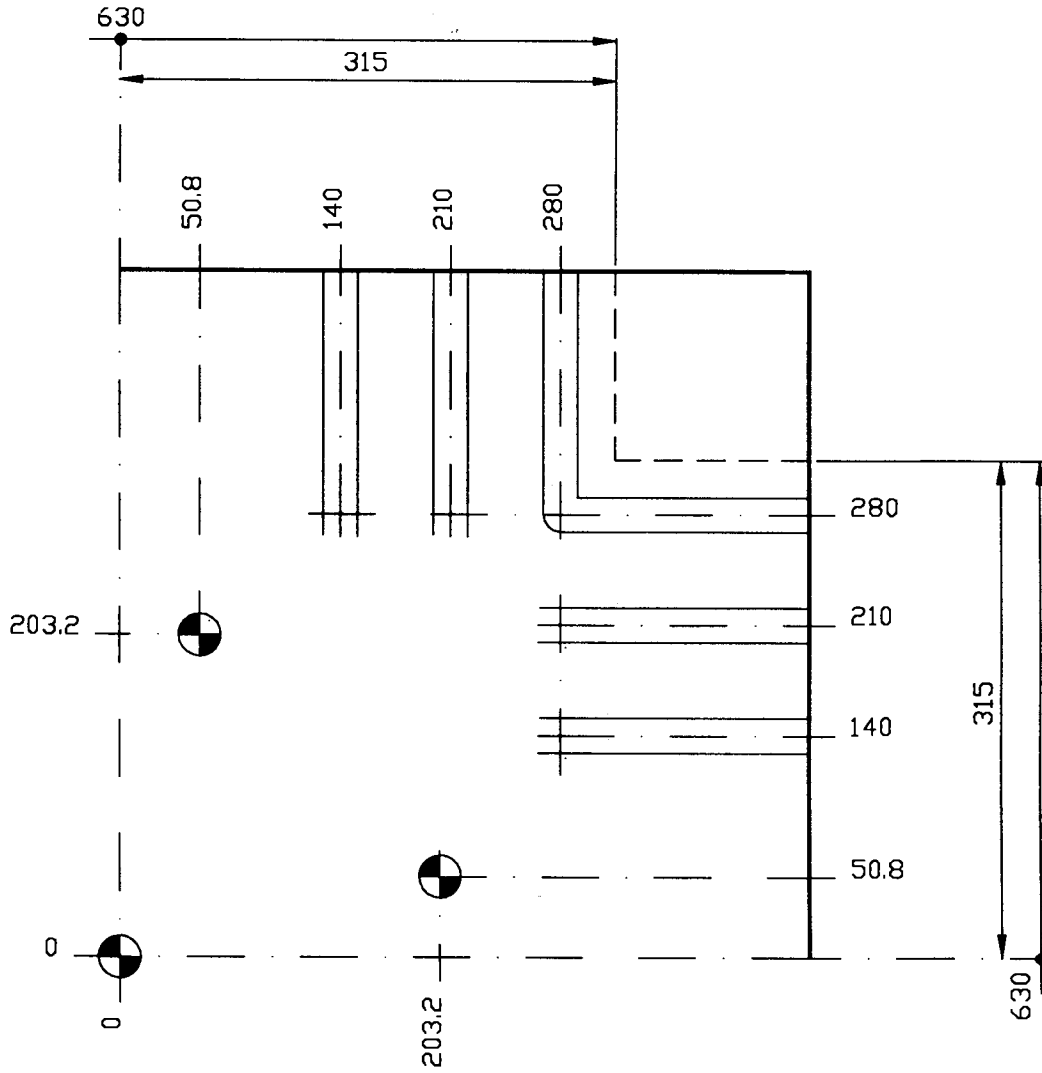
S. 630/560



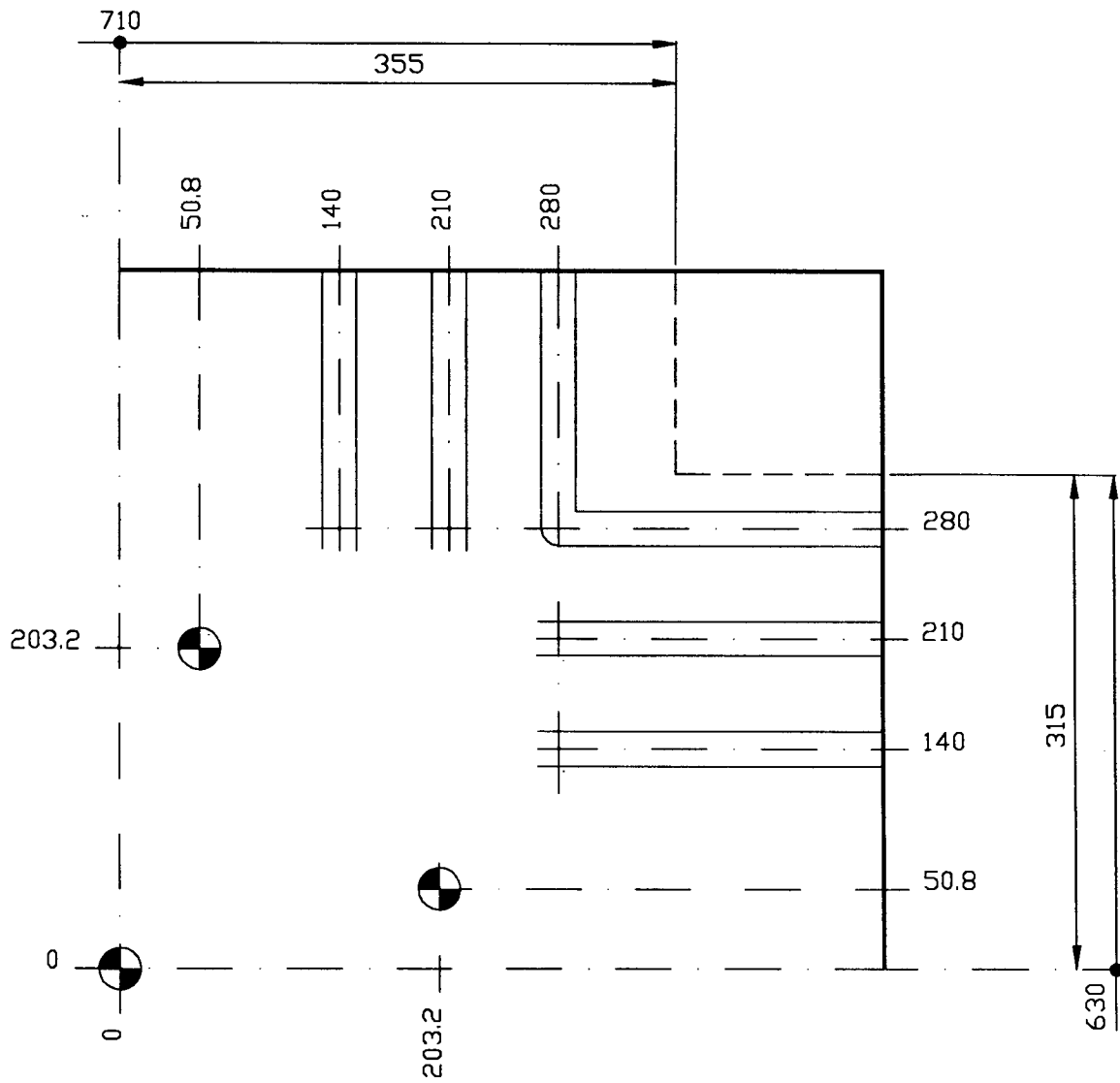
S 710/560



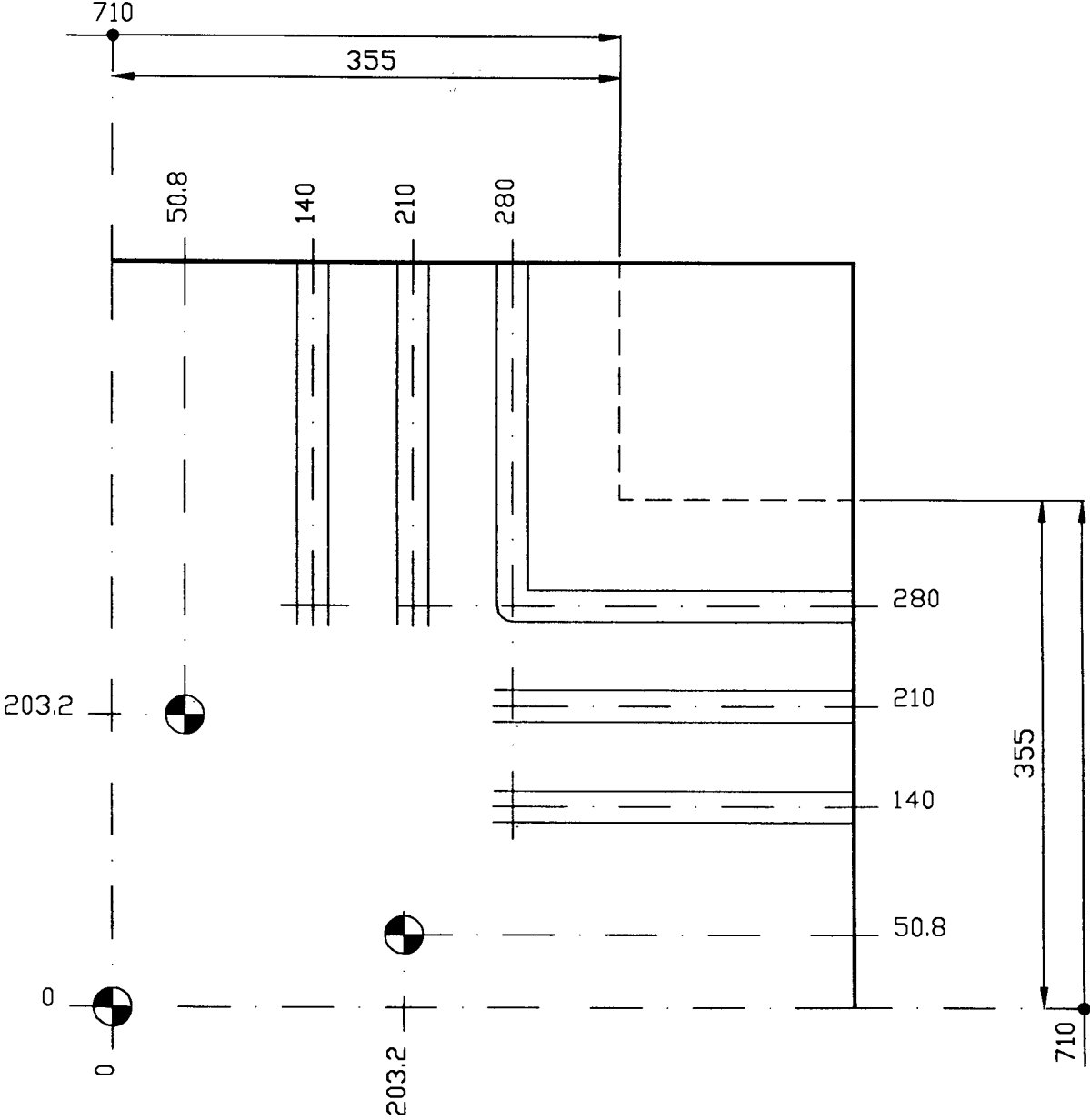
S 630/630



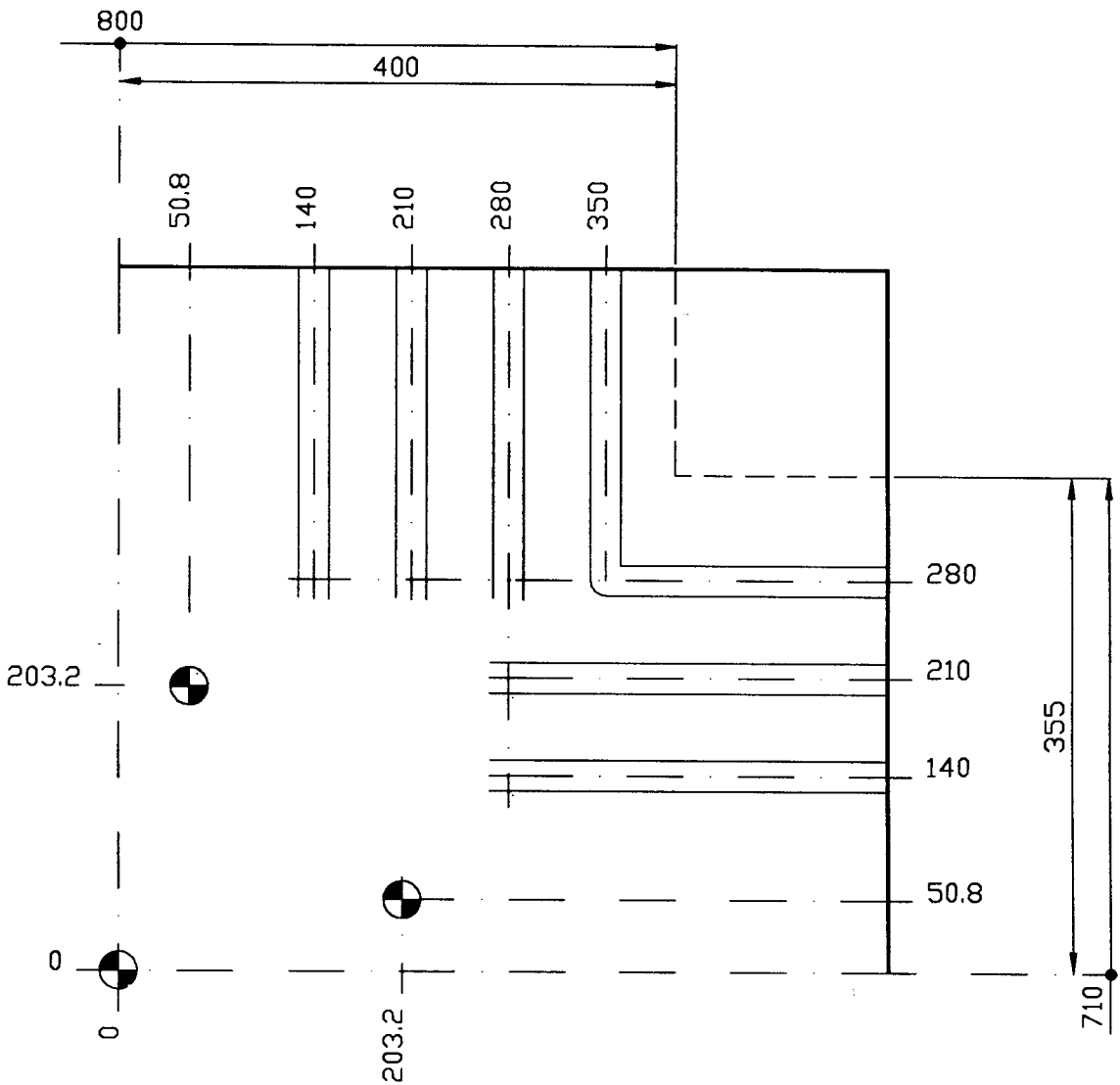
S 710/630



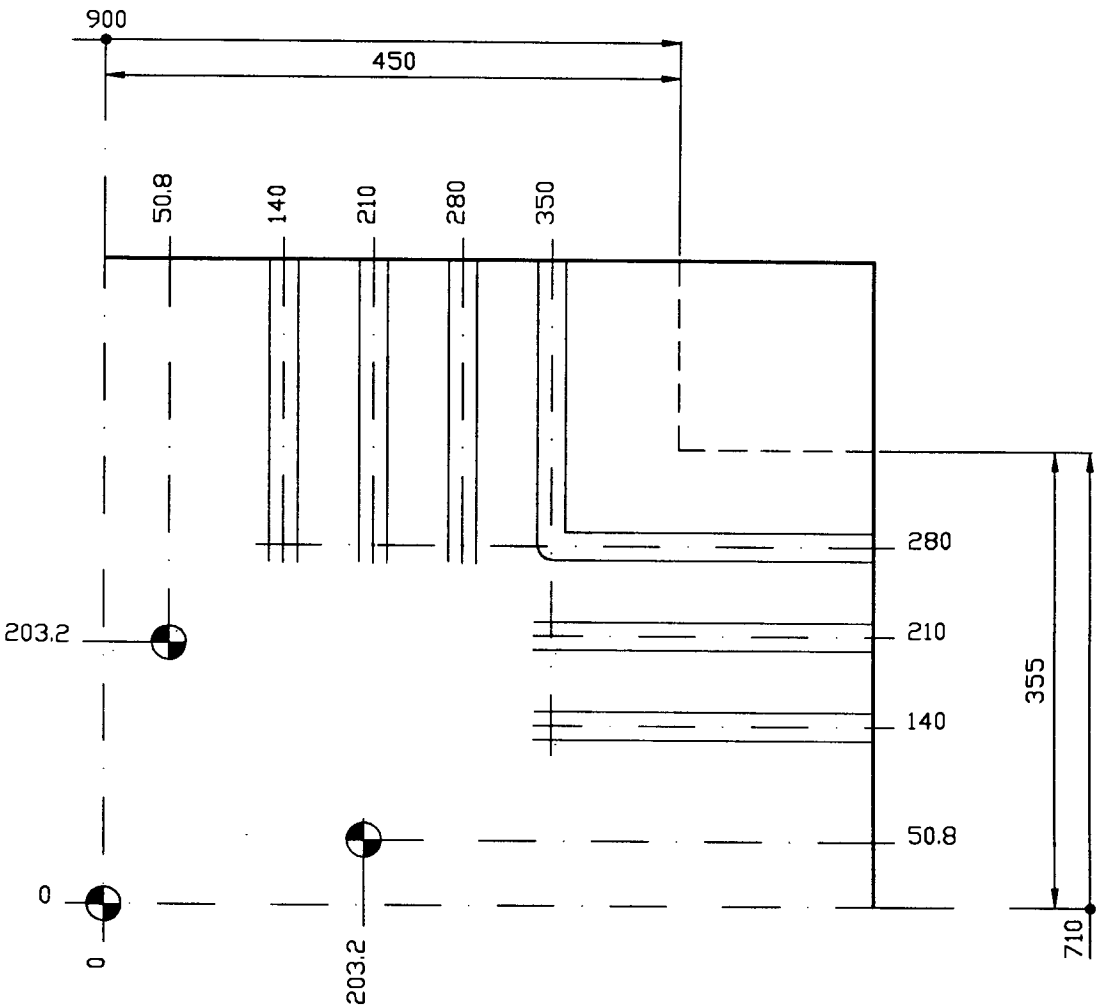
S 710/710



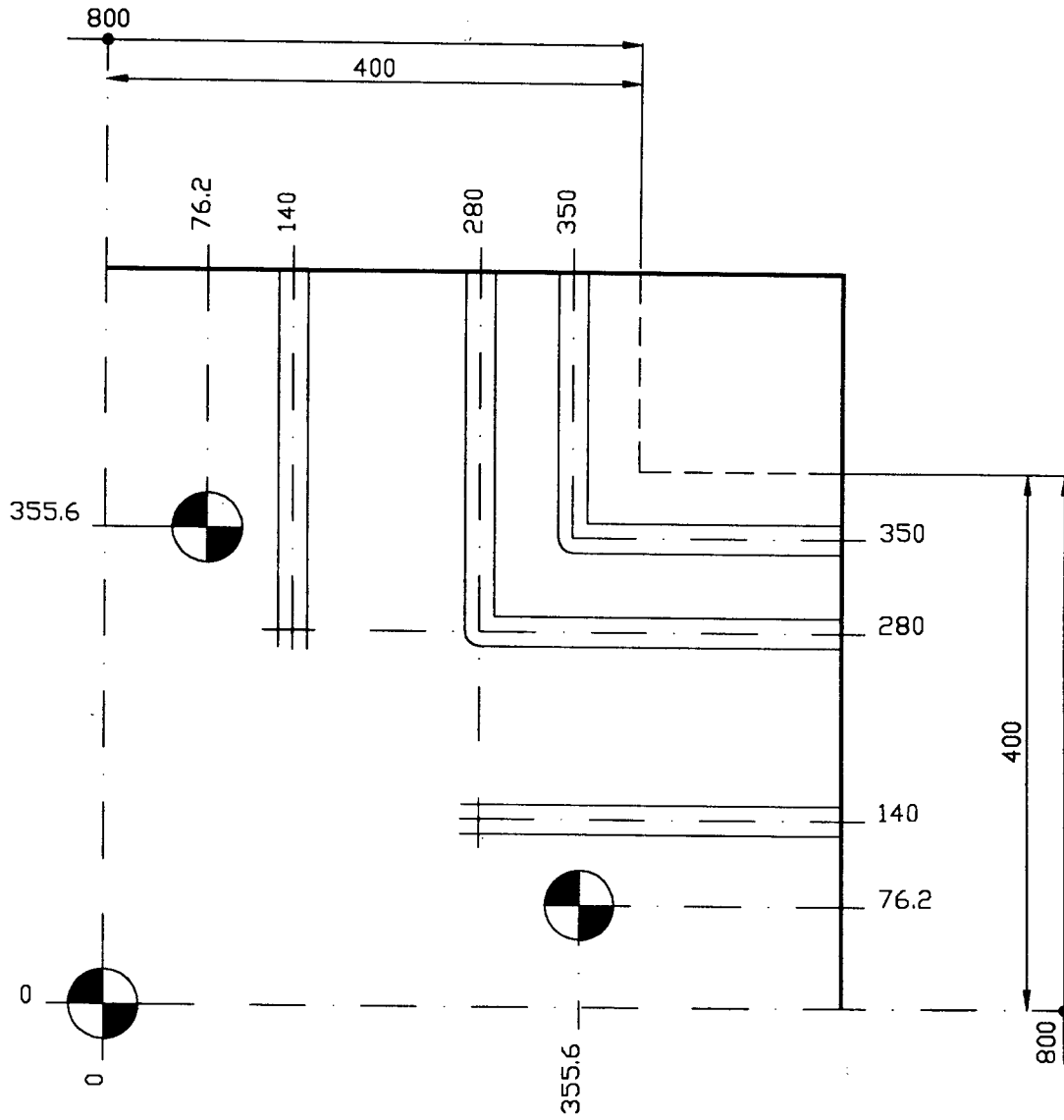
S 800/710



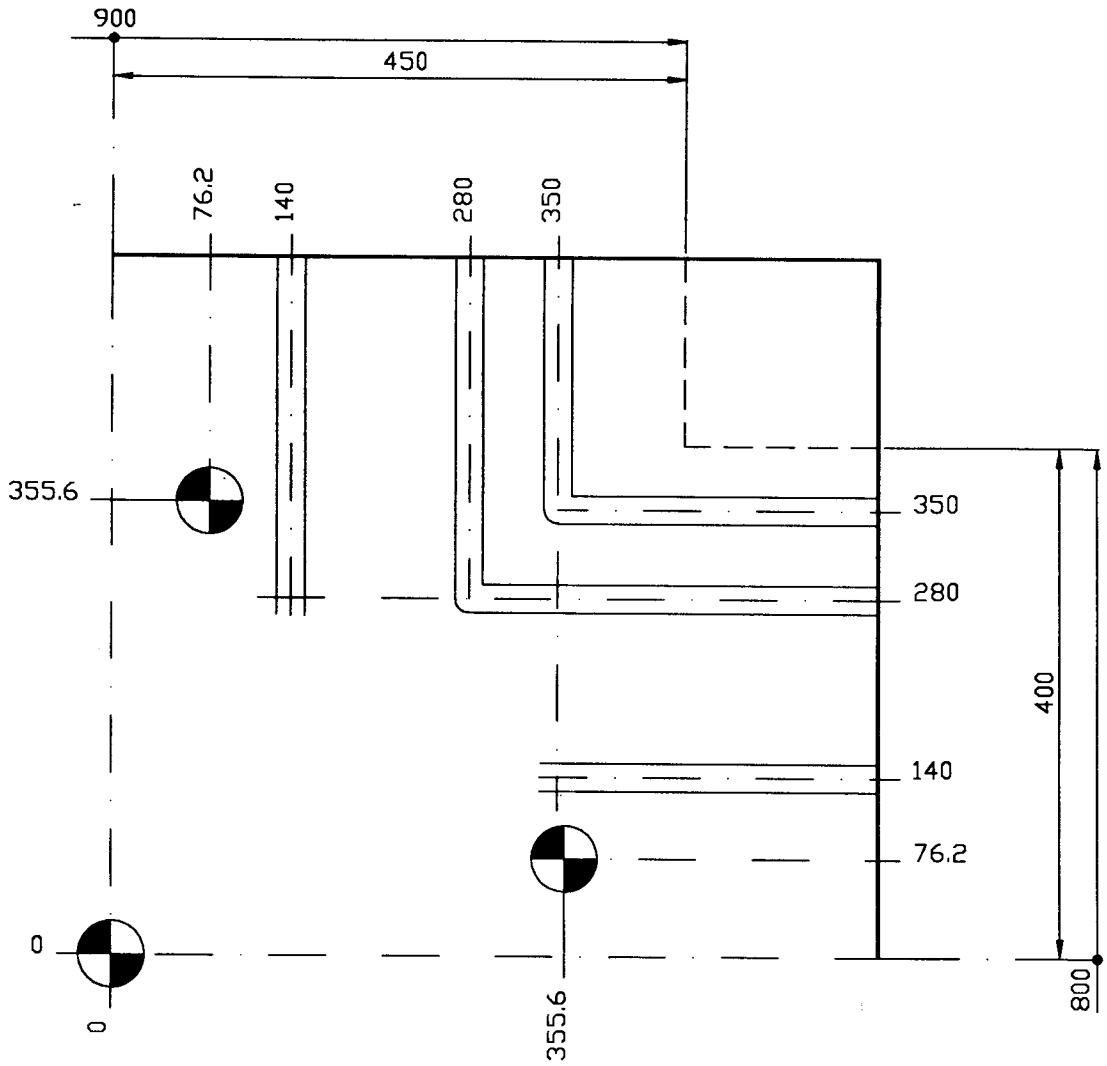
S 900/710



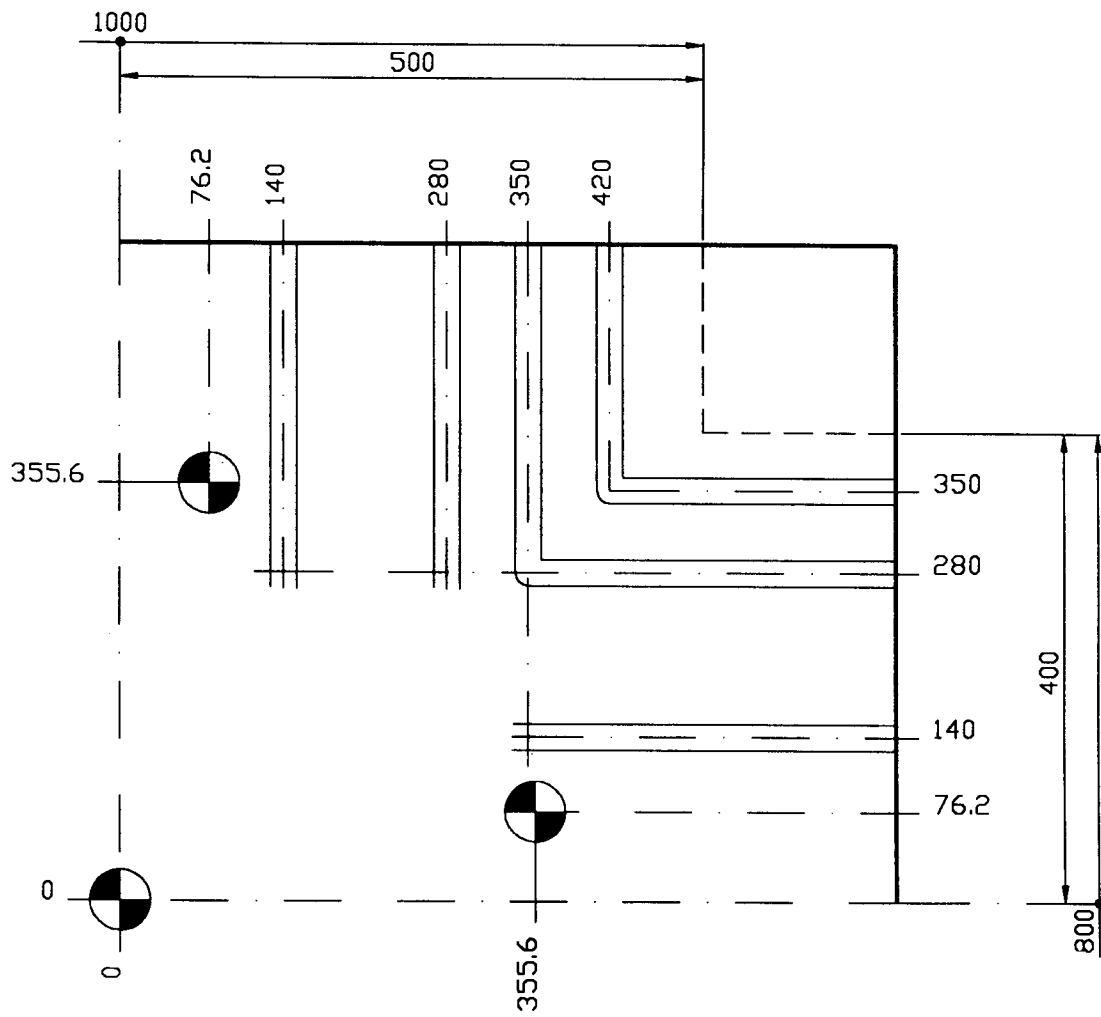
S 800/800



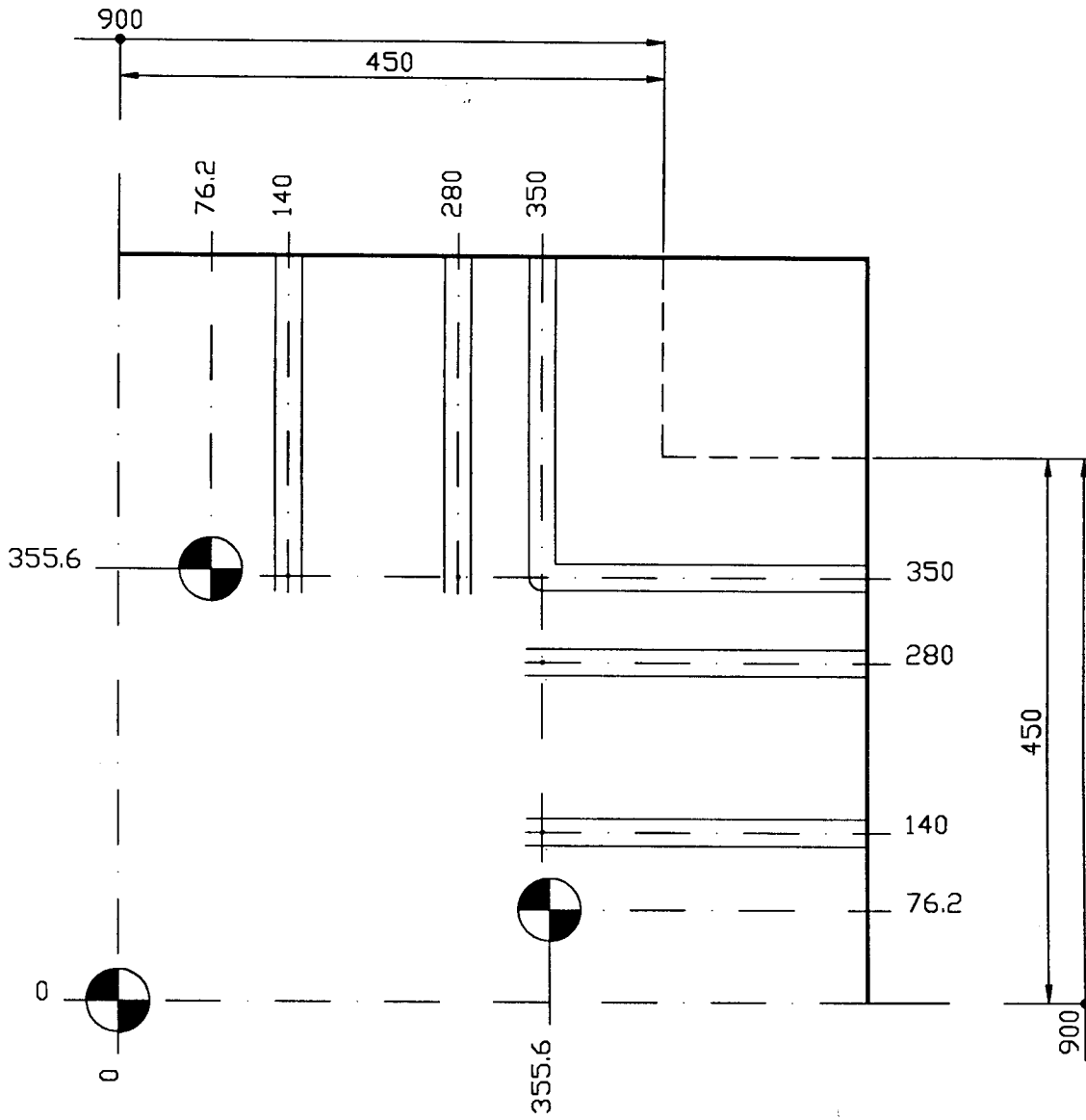
S 900/800



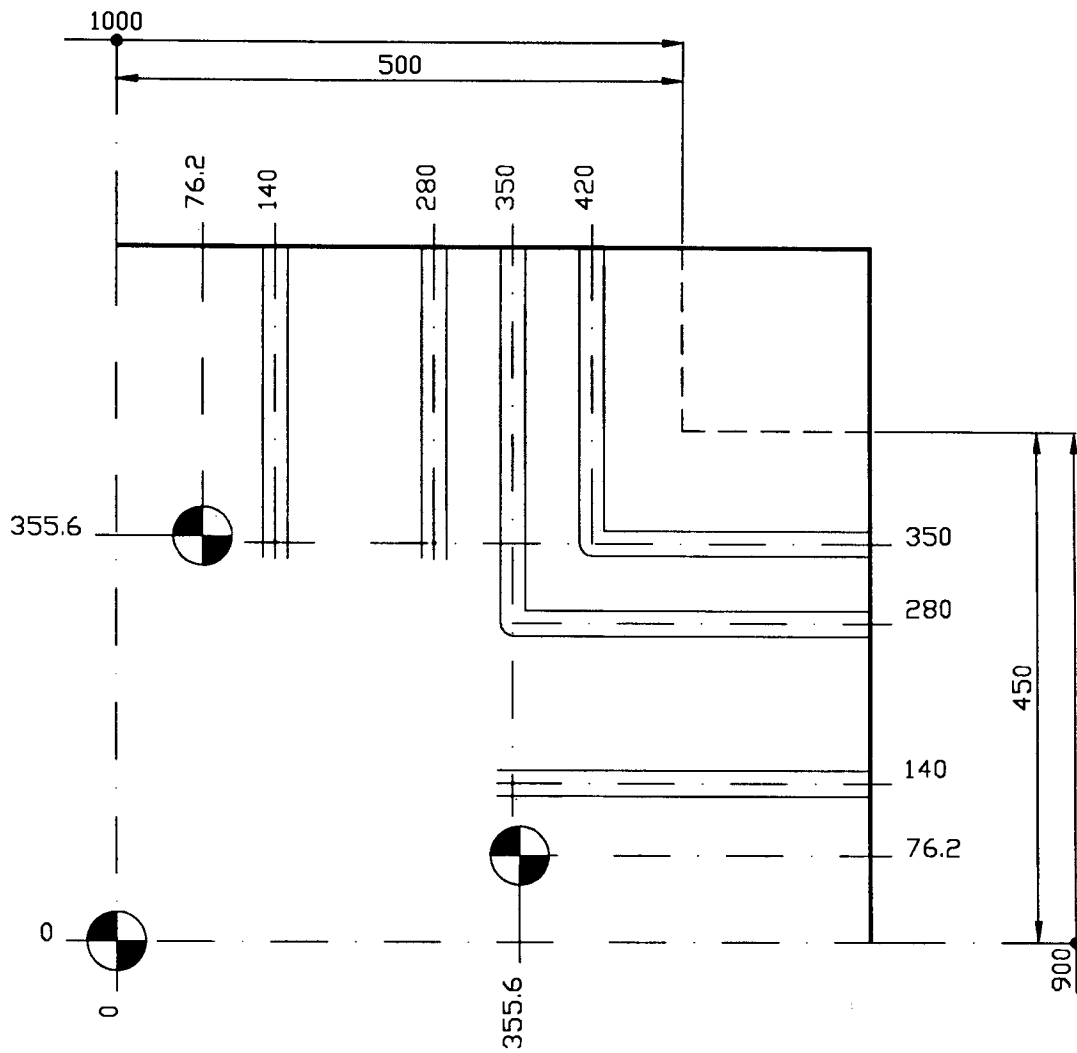
S 1000/800



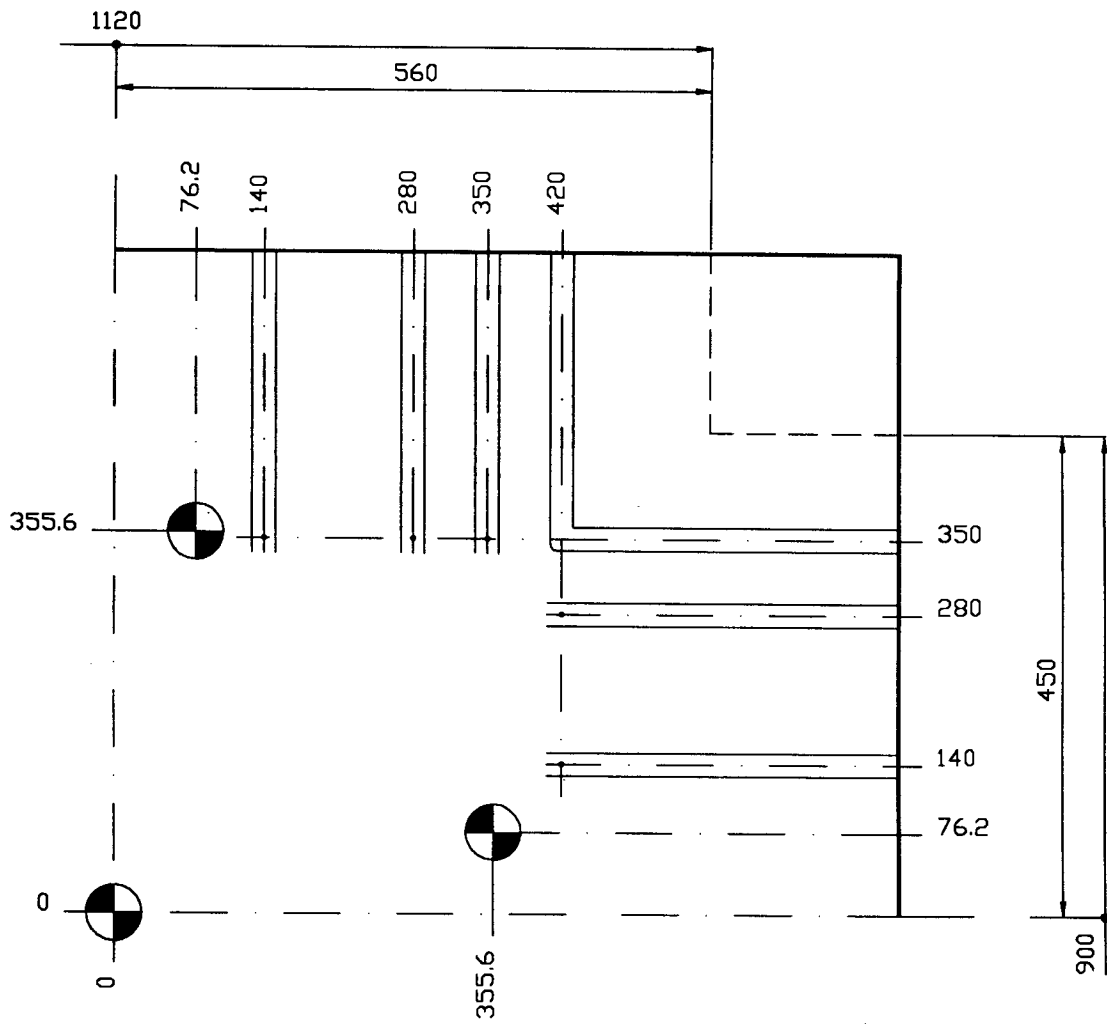
S 900/900



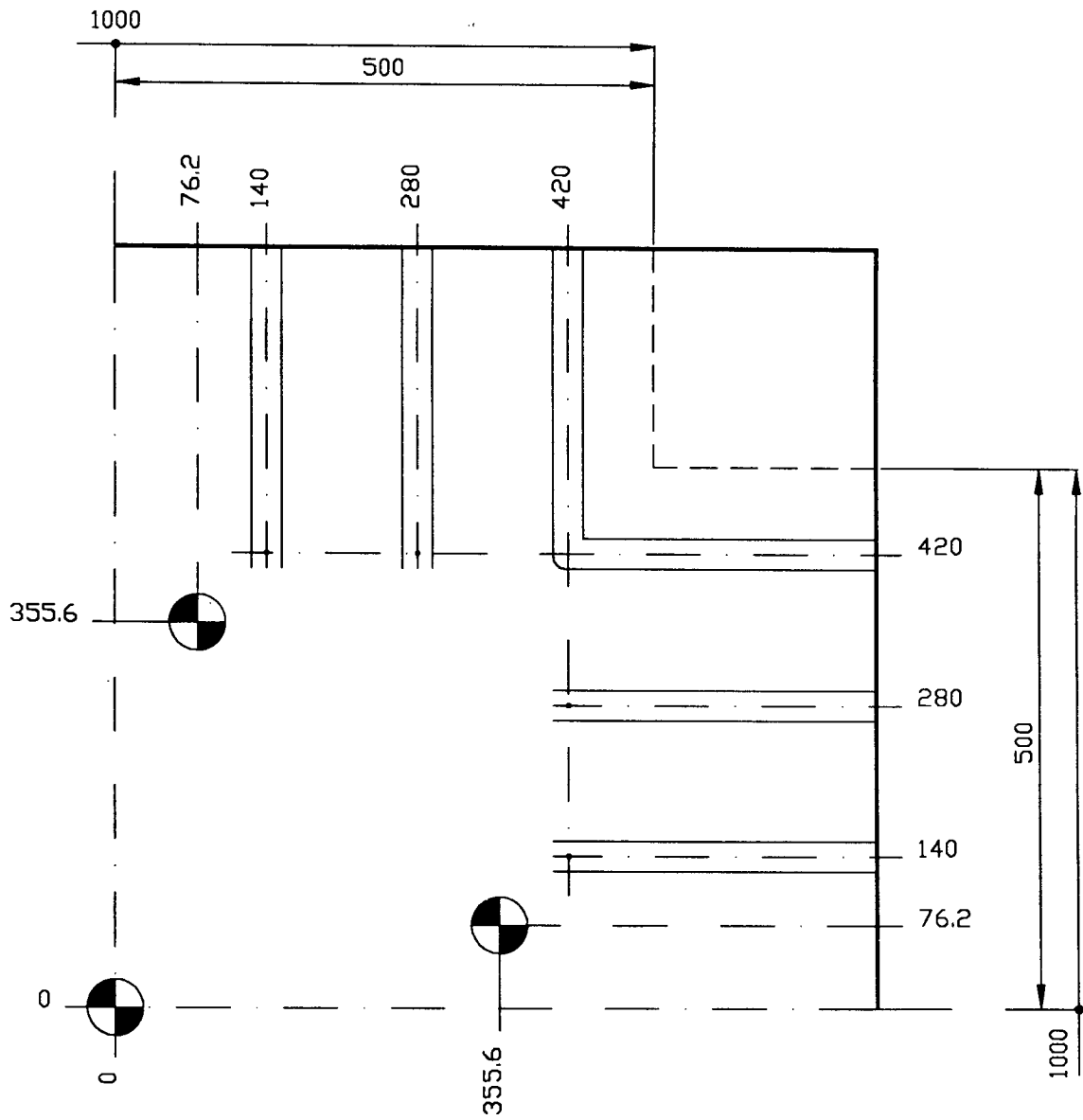
S 1000/900



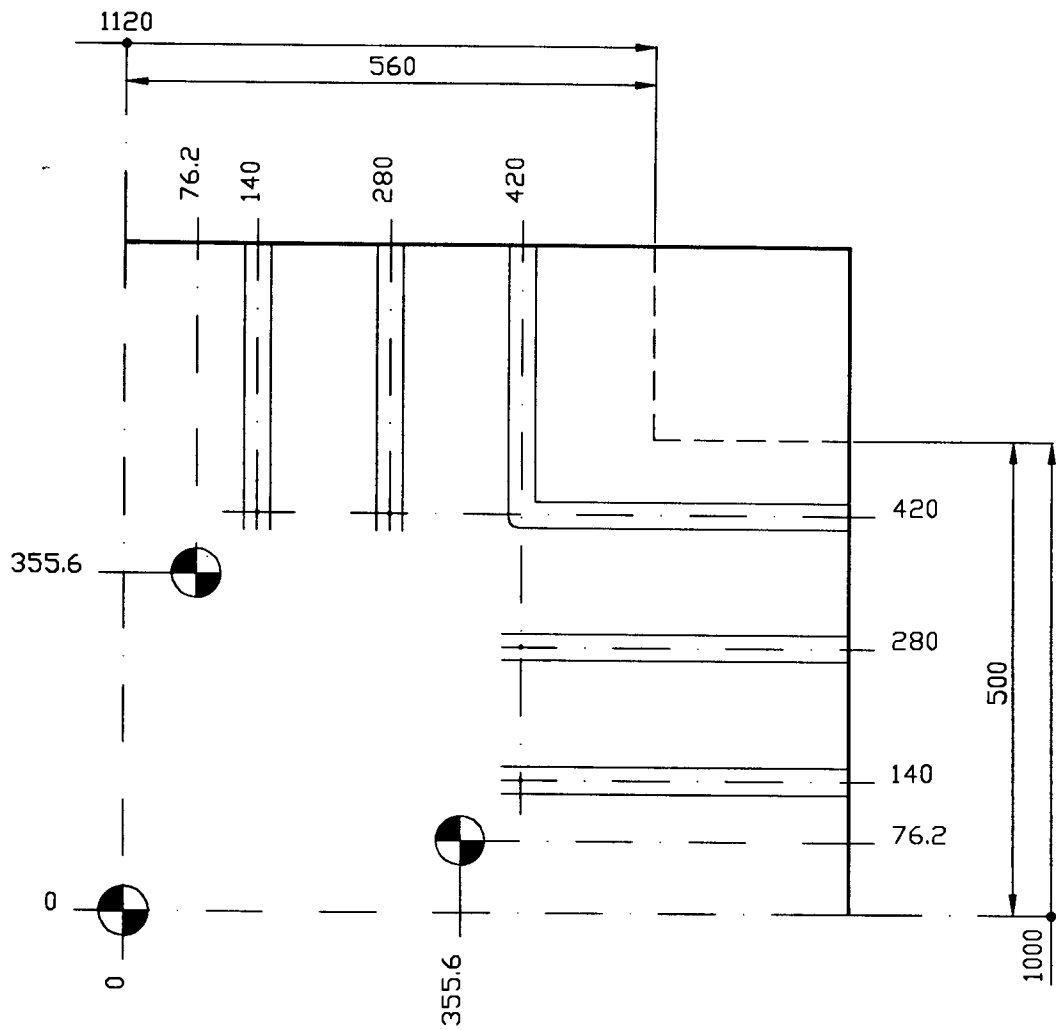
S 1120/900



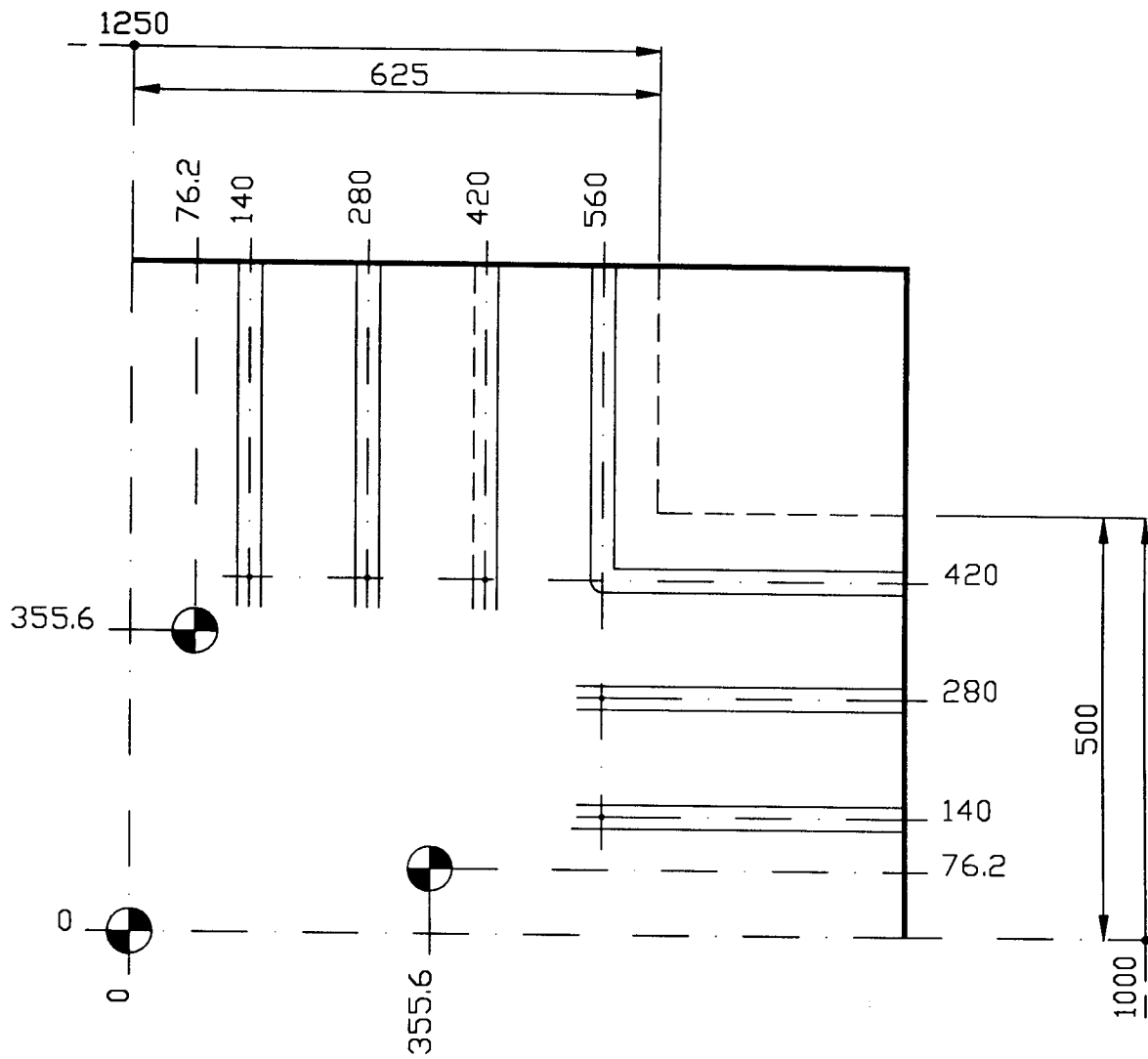
S 1000/1000



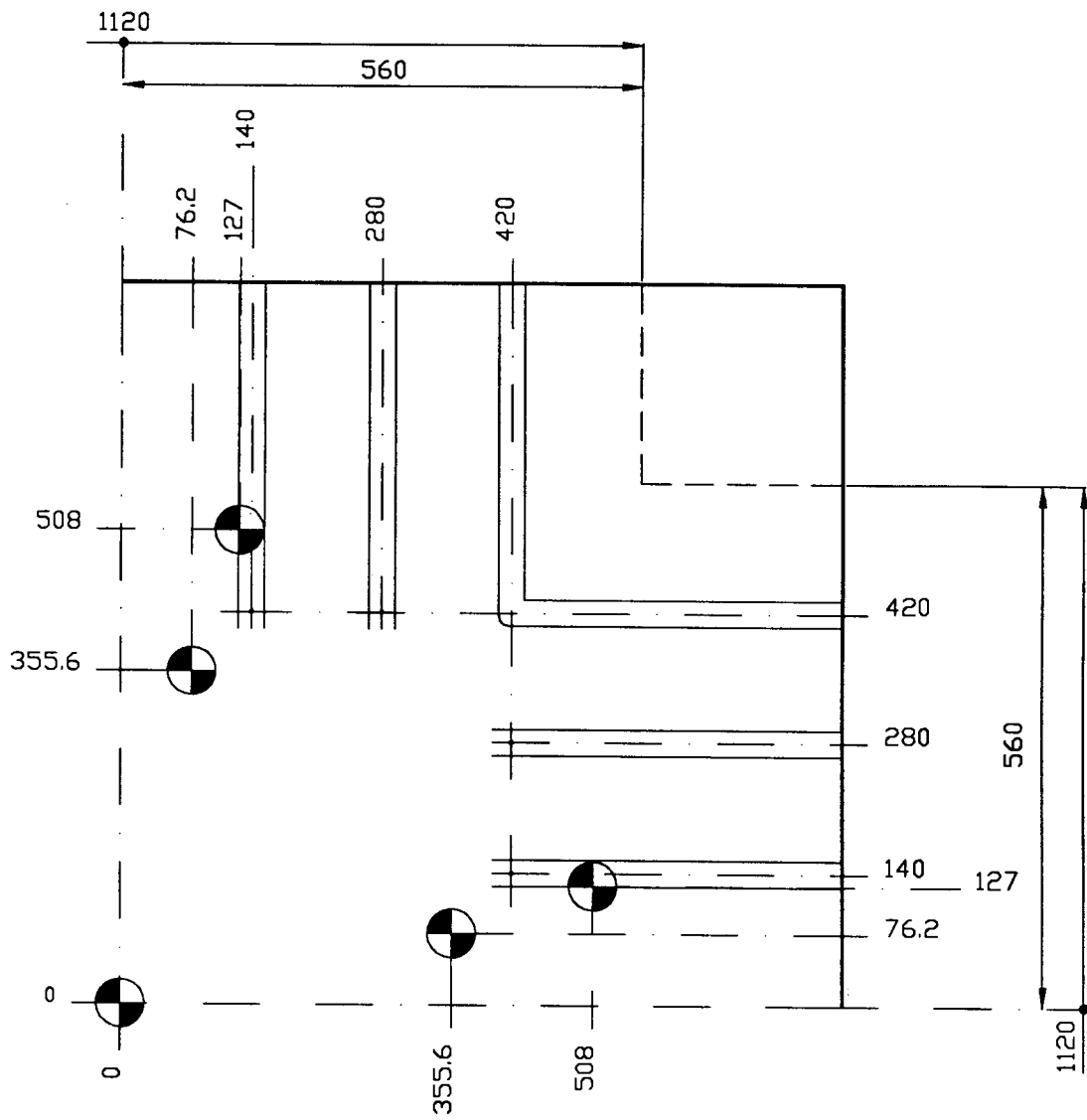
S 1120/1000



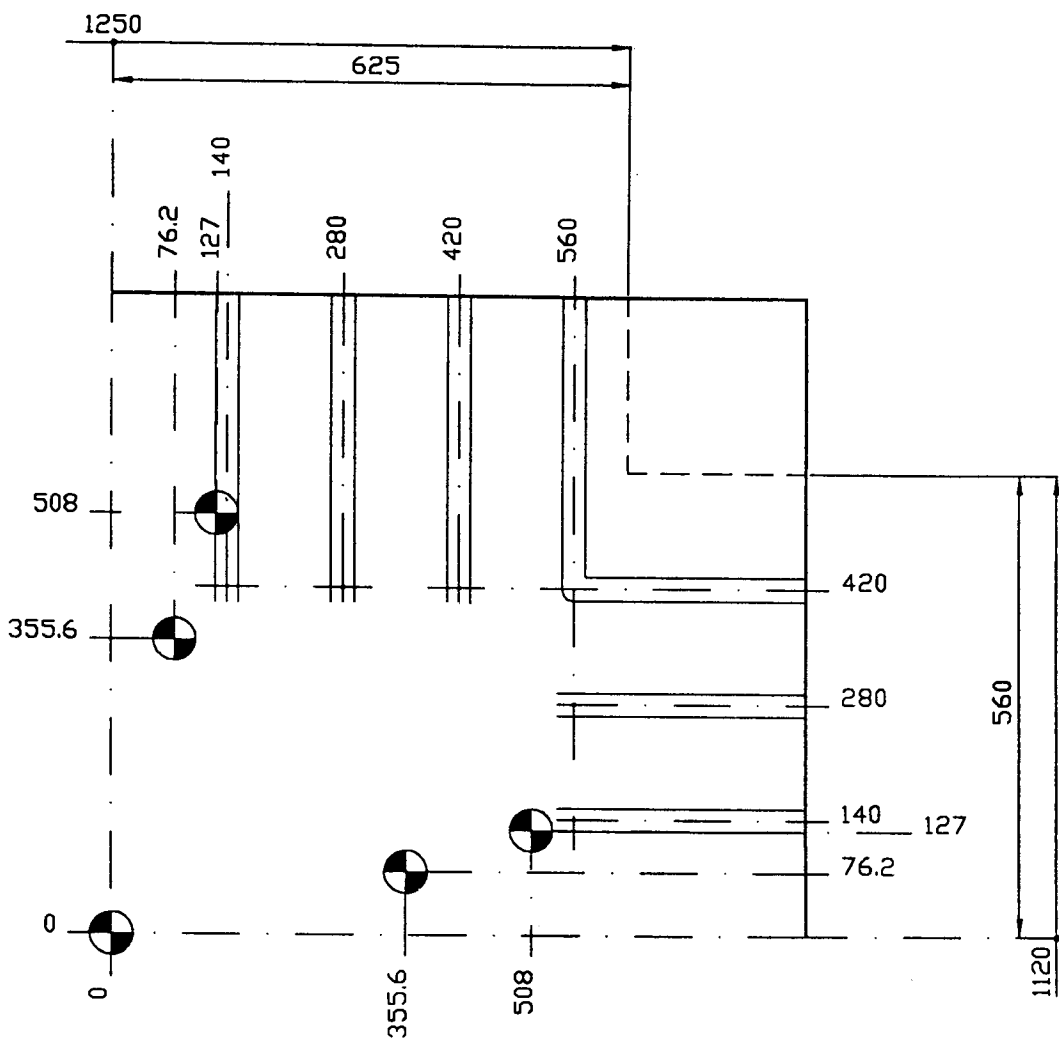
S 1250/1000



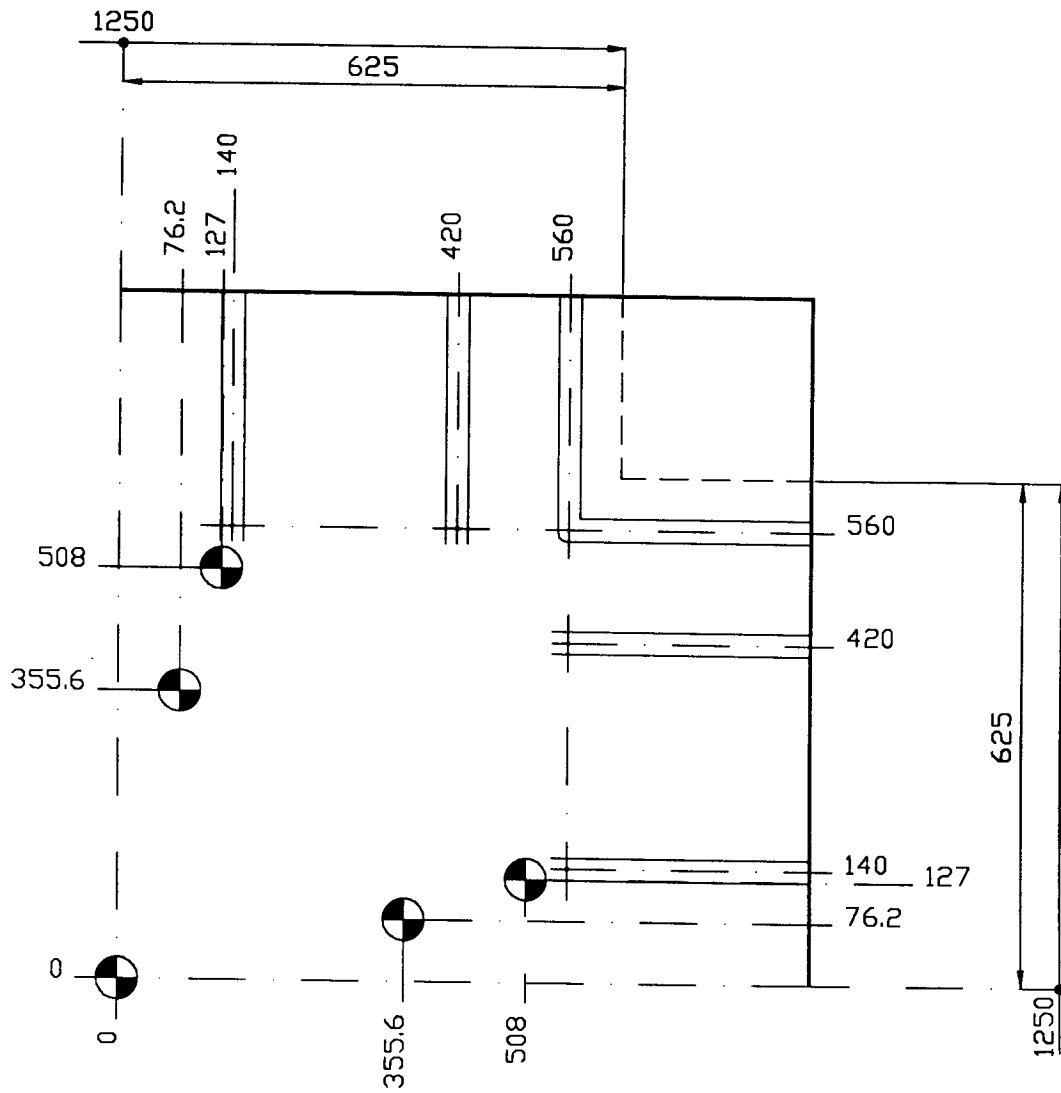
S 1120/1120



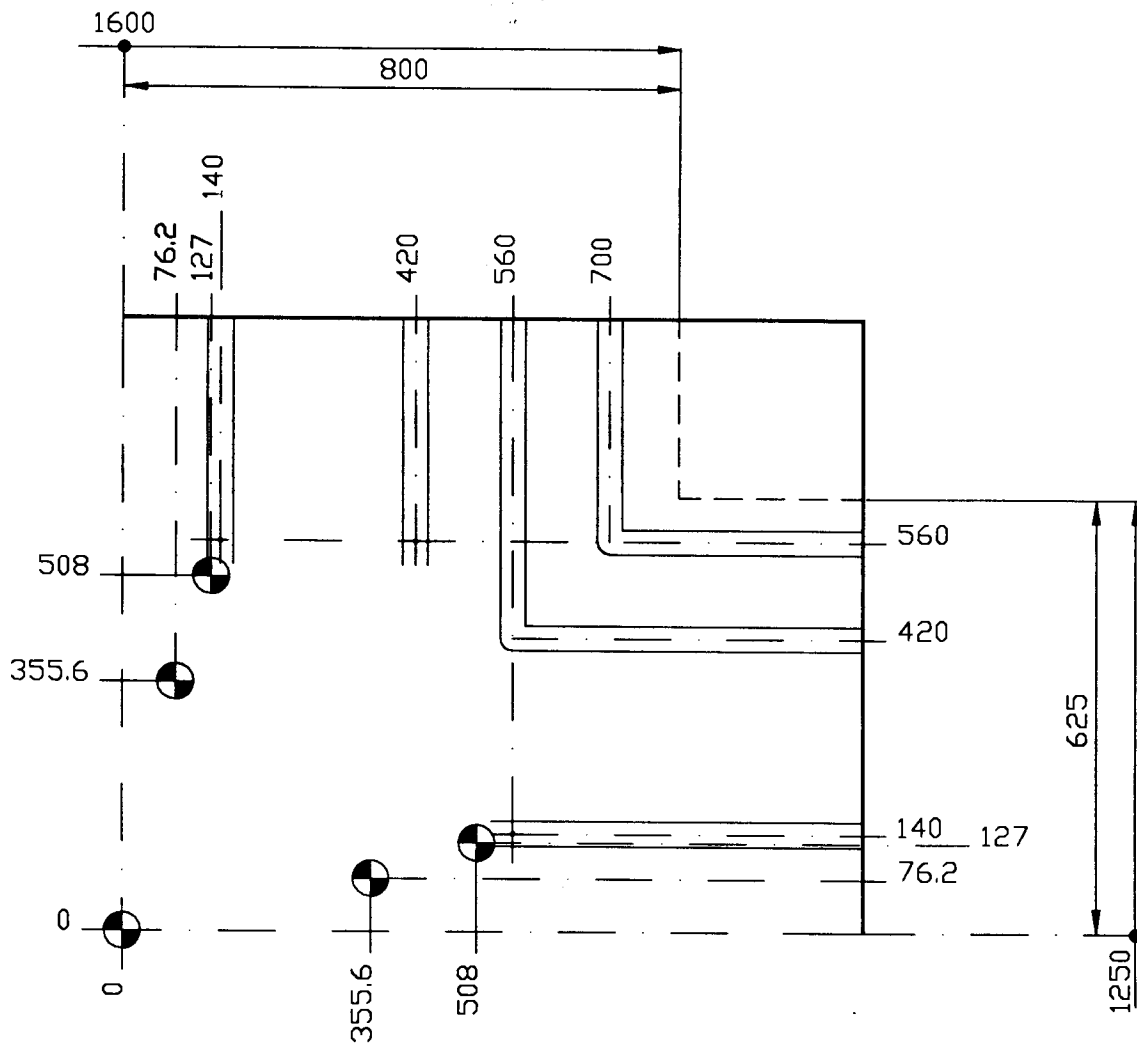
S 1250/1120



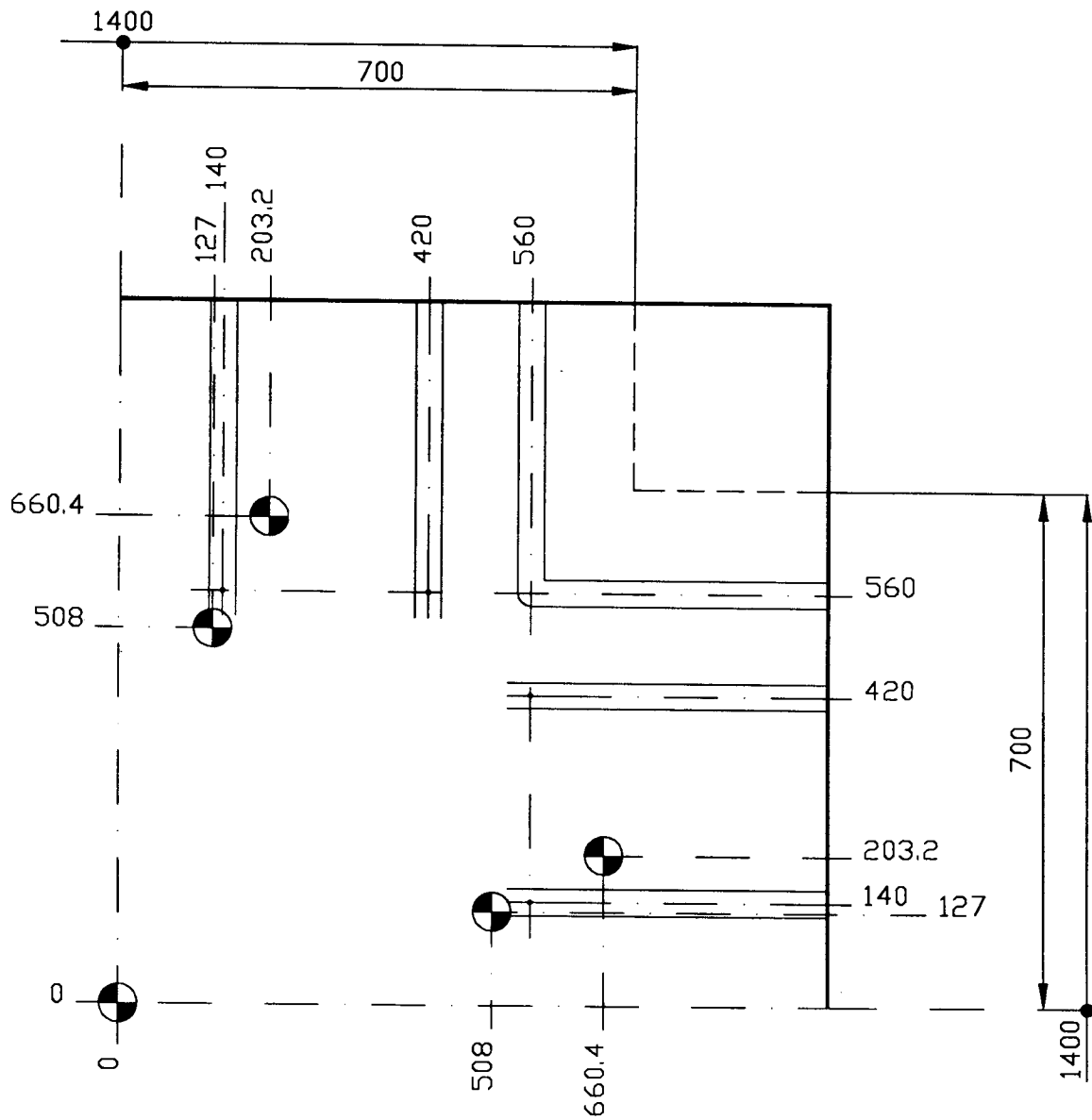
S 1250/1250



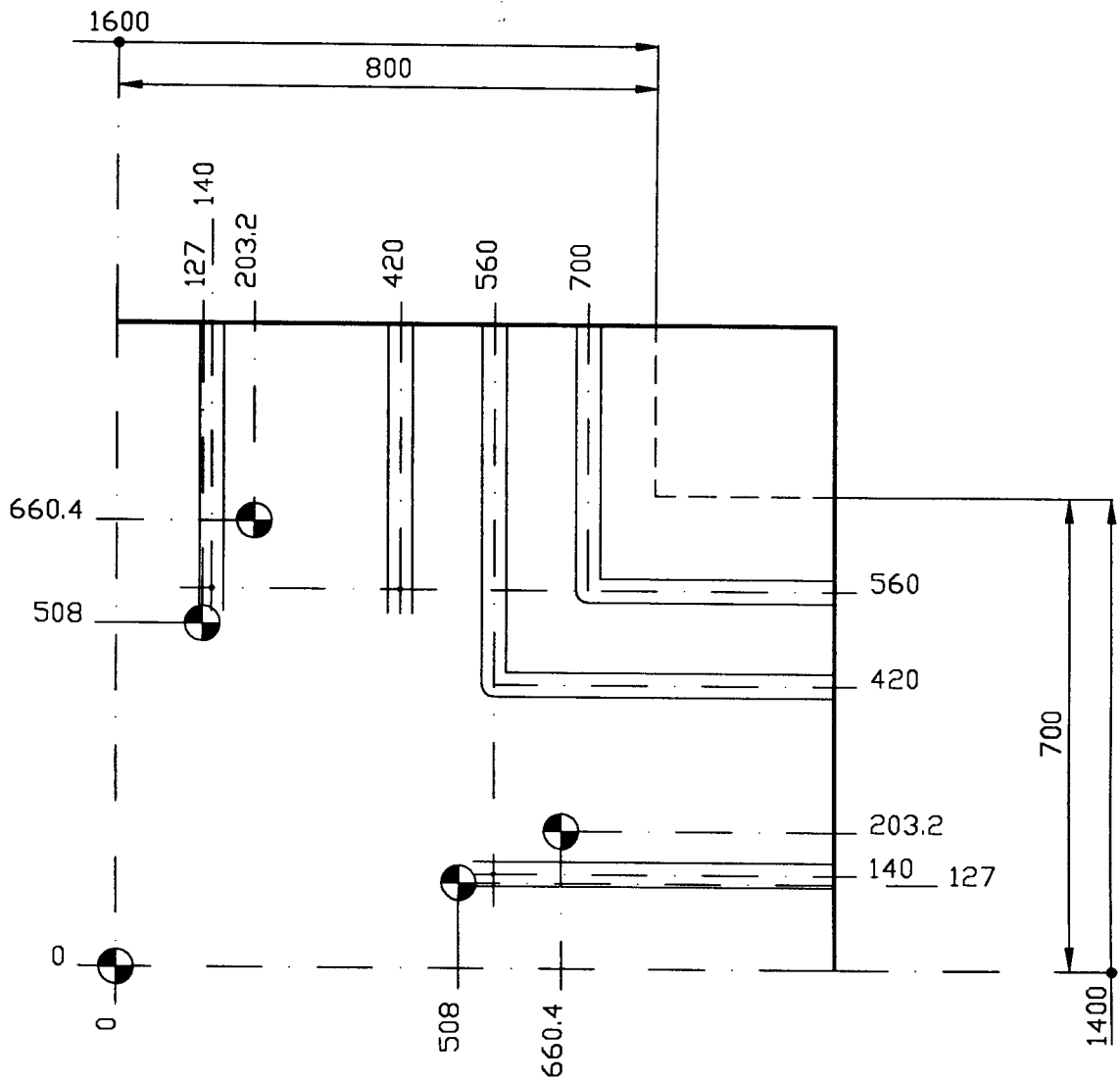
S 1600/1250



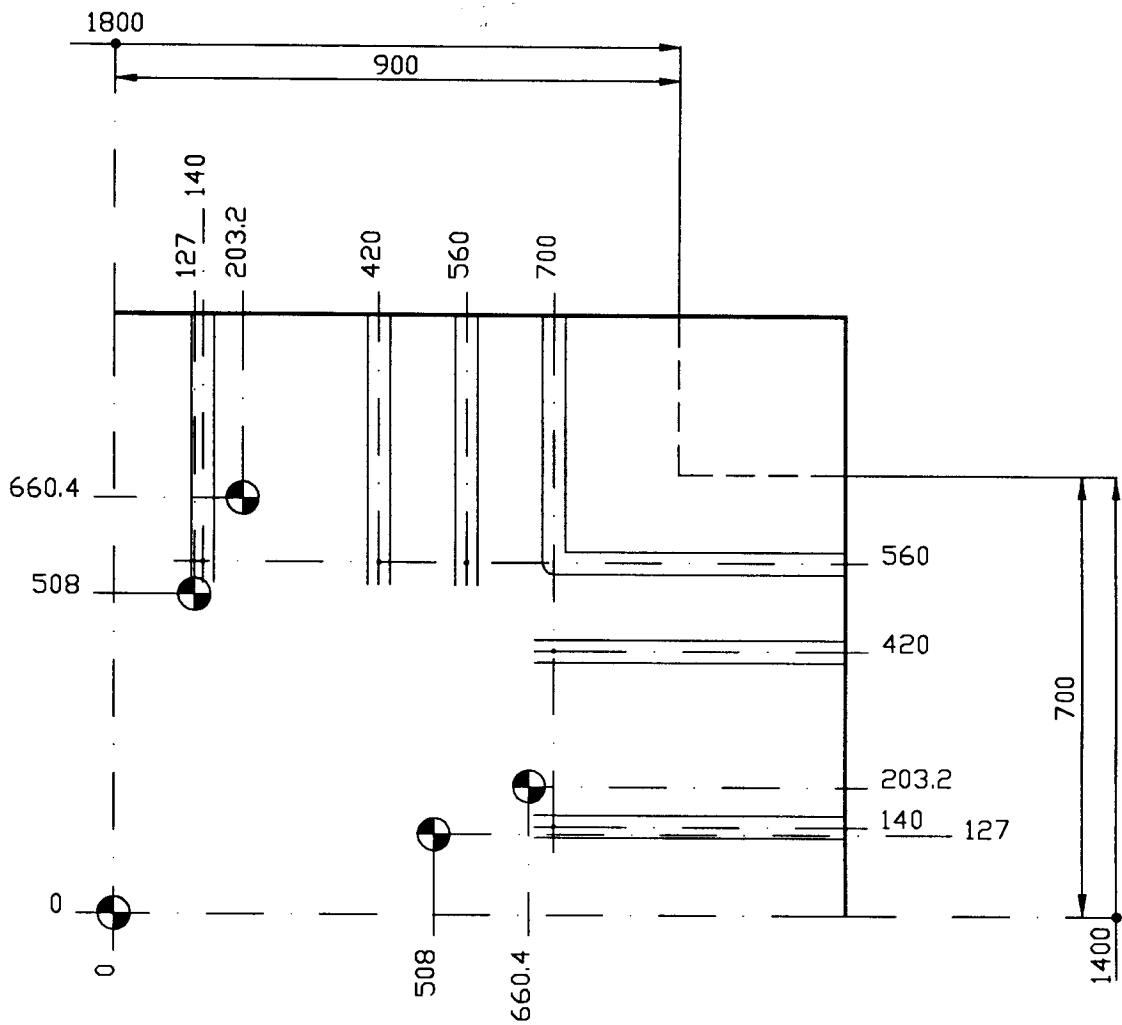
S 1400/1400



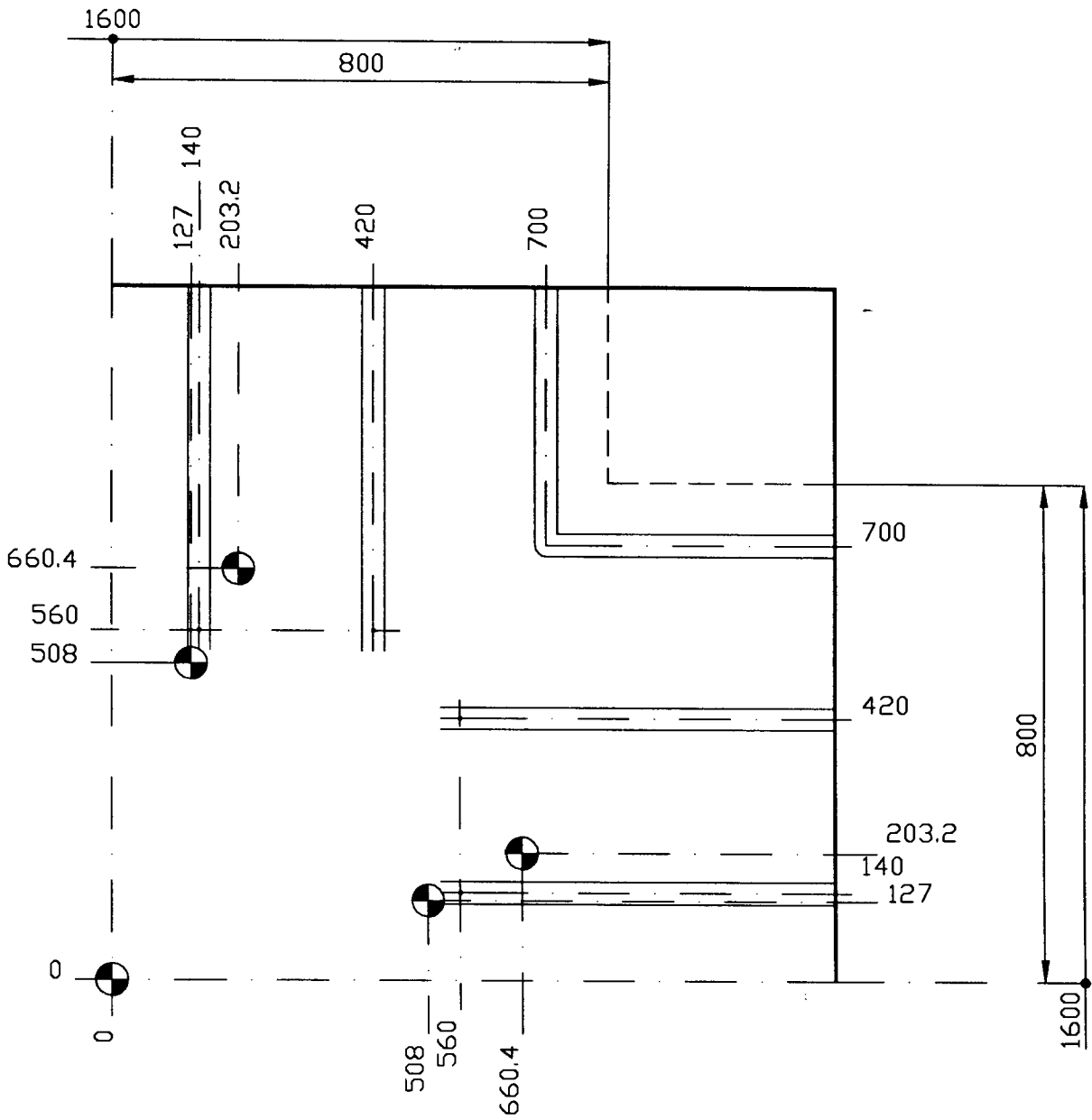
S 1600/1400



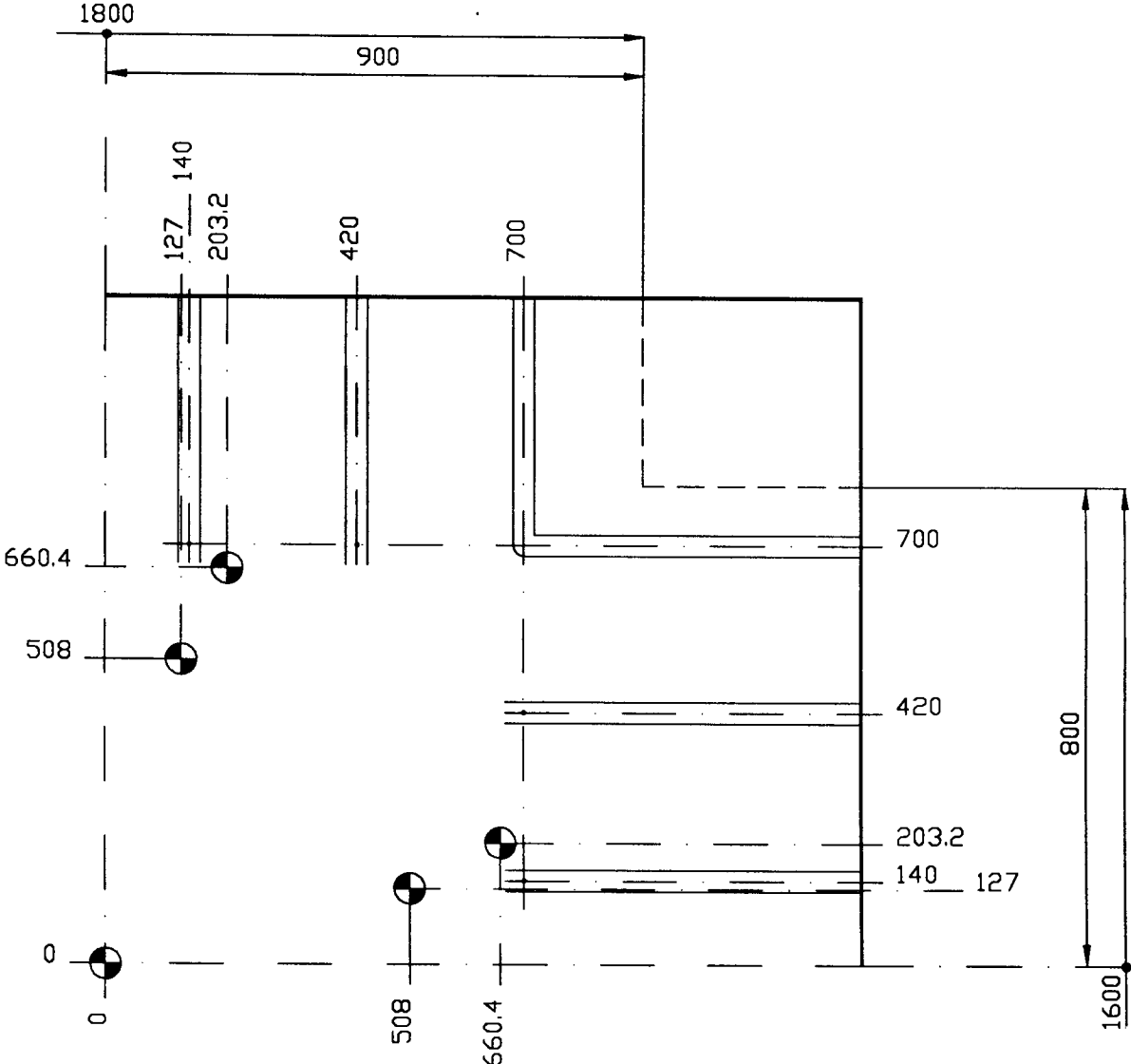
S 1800/1400



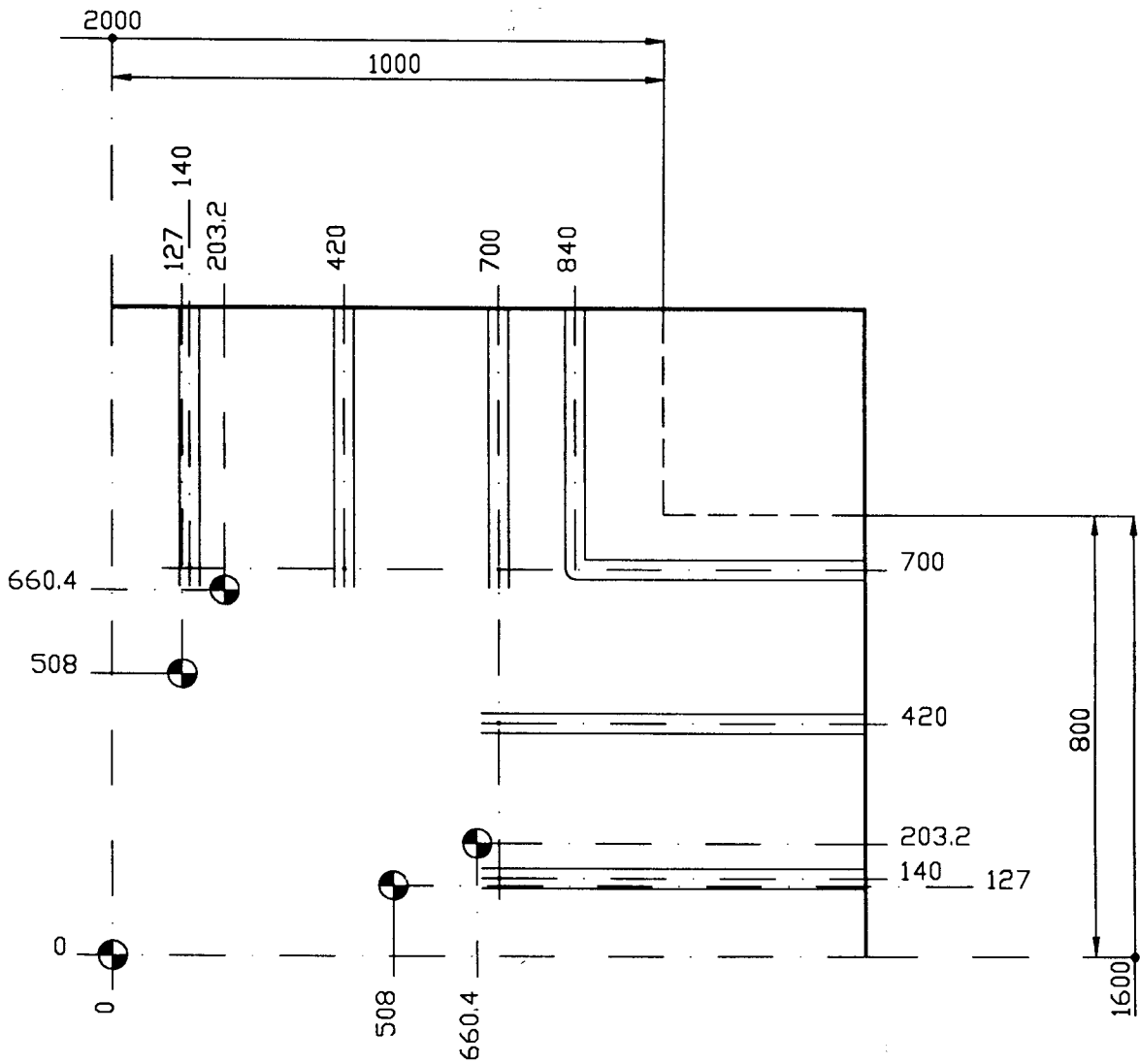
S 1600/1600



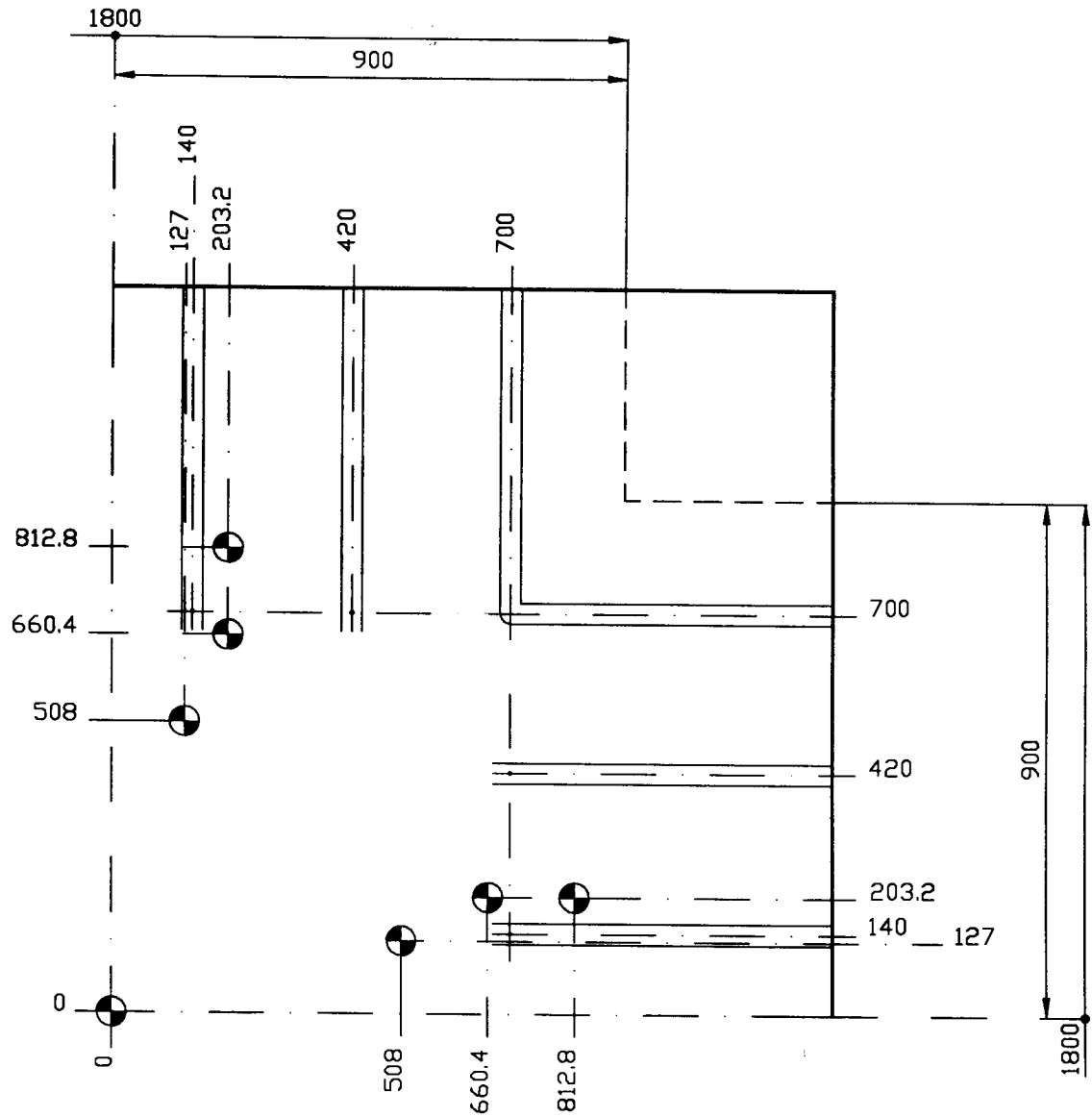
S 1800/1600



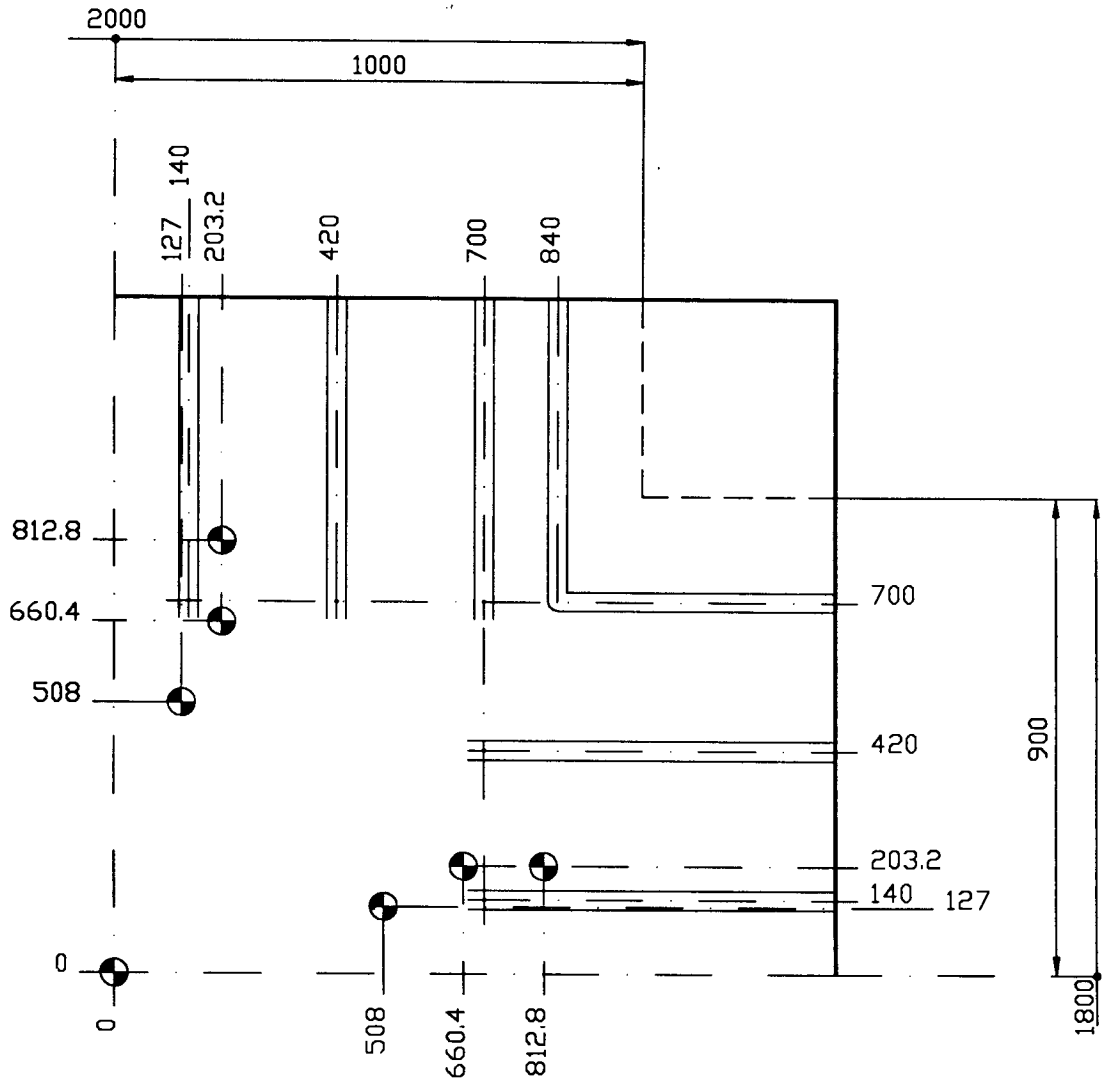
S 2000/1600



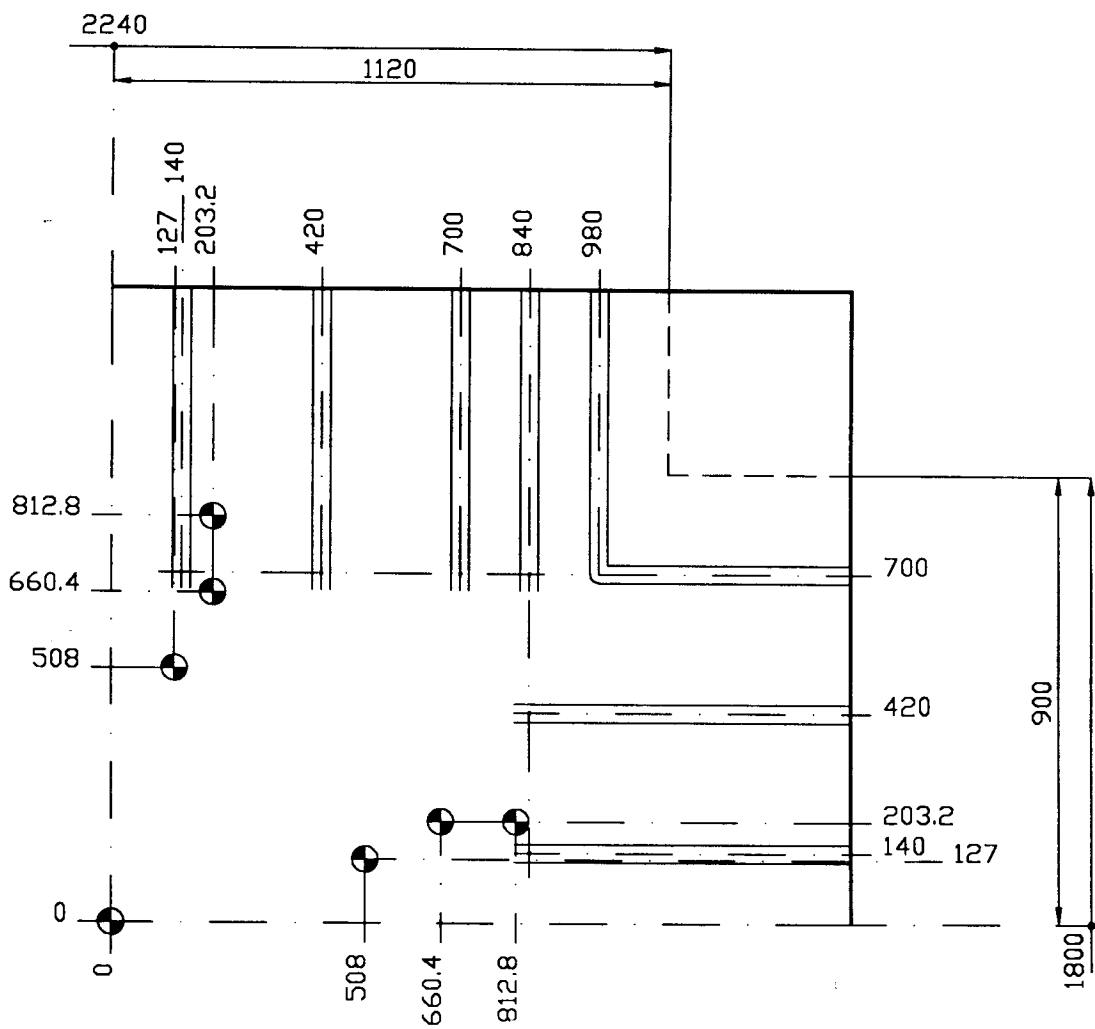
S 1800/1800



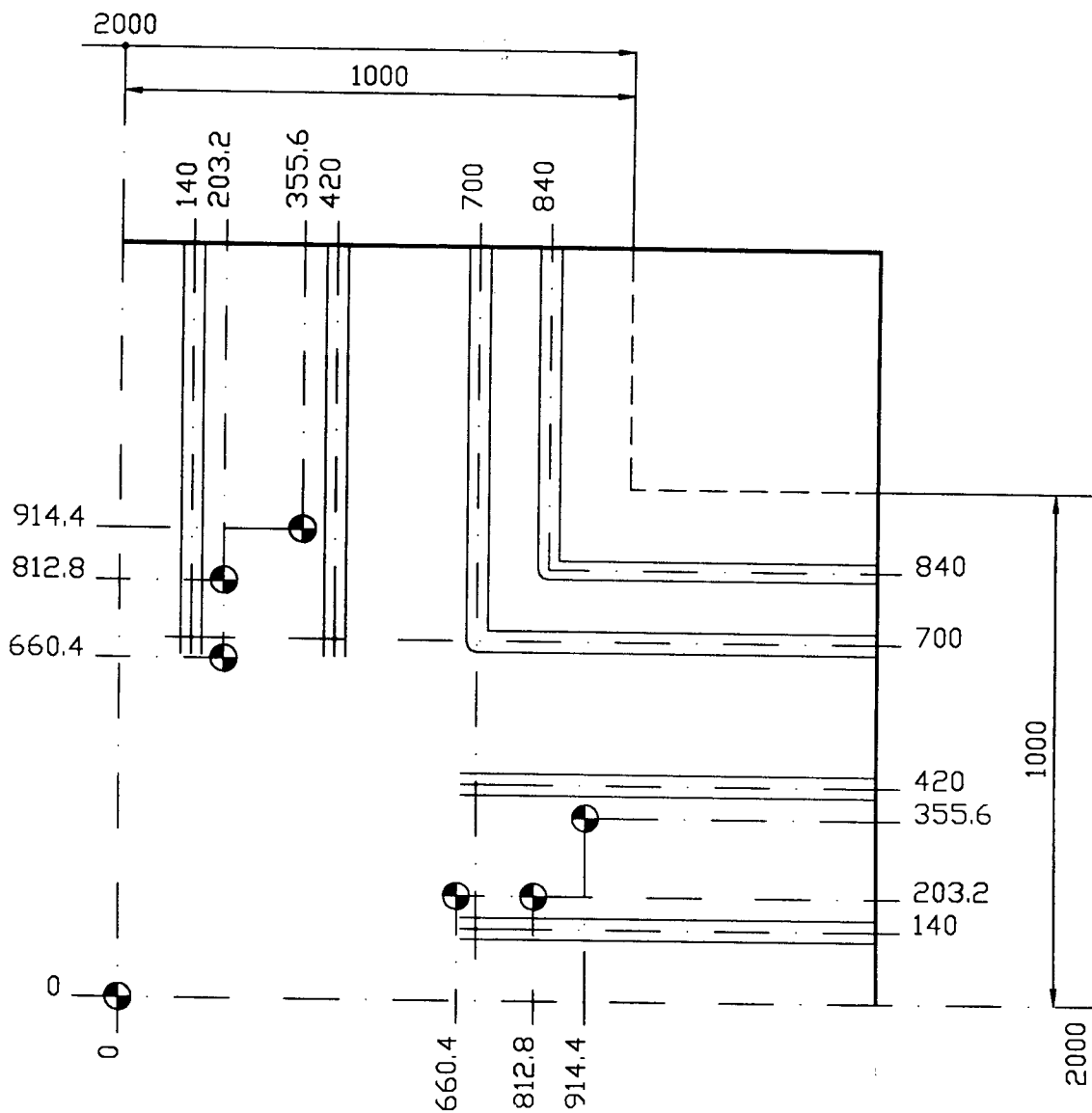
S 2000/1800



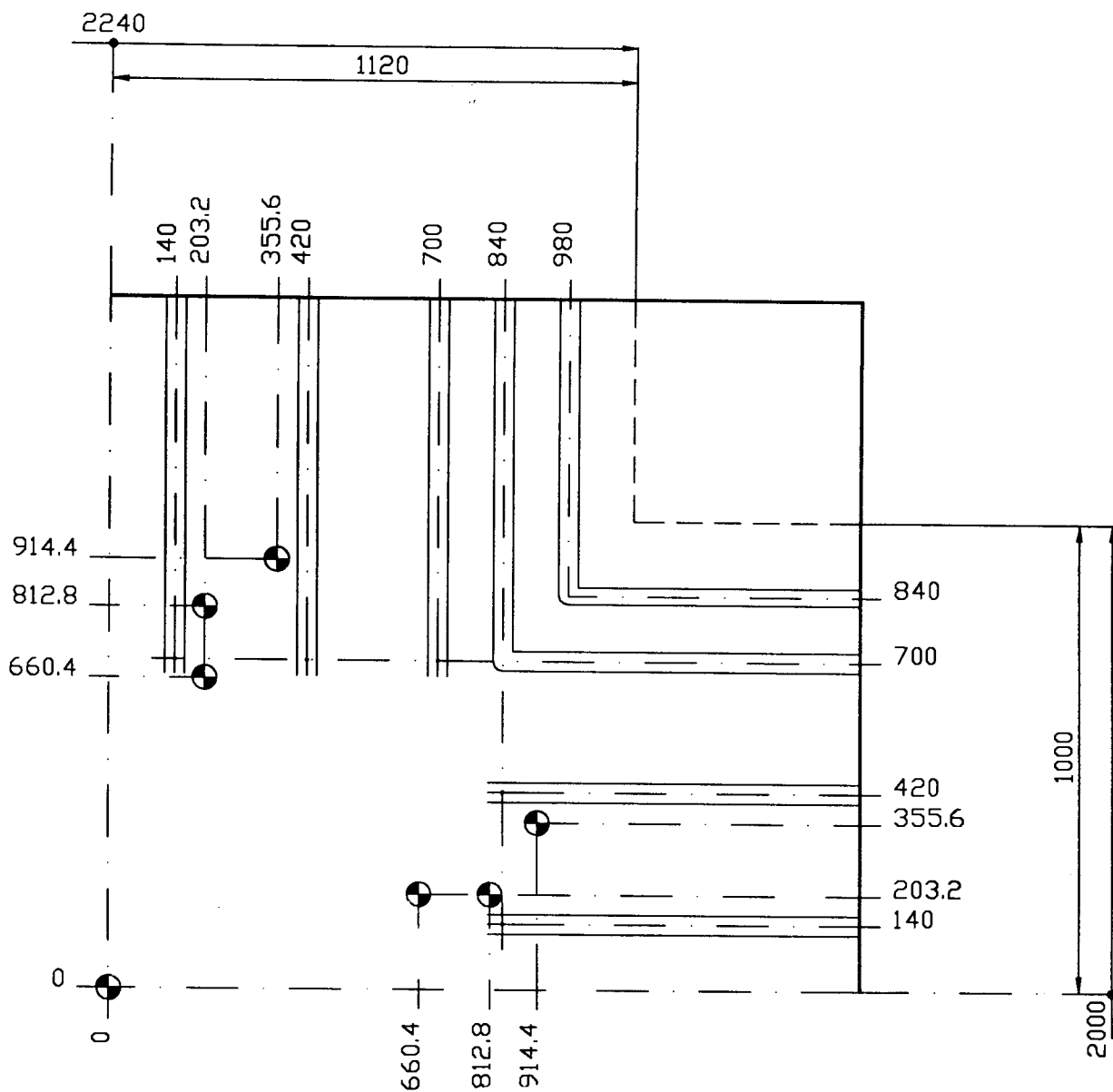
S 2240/1800



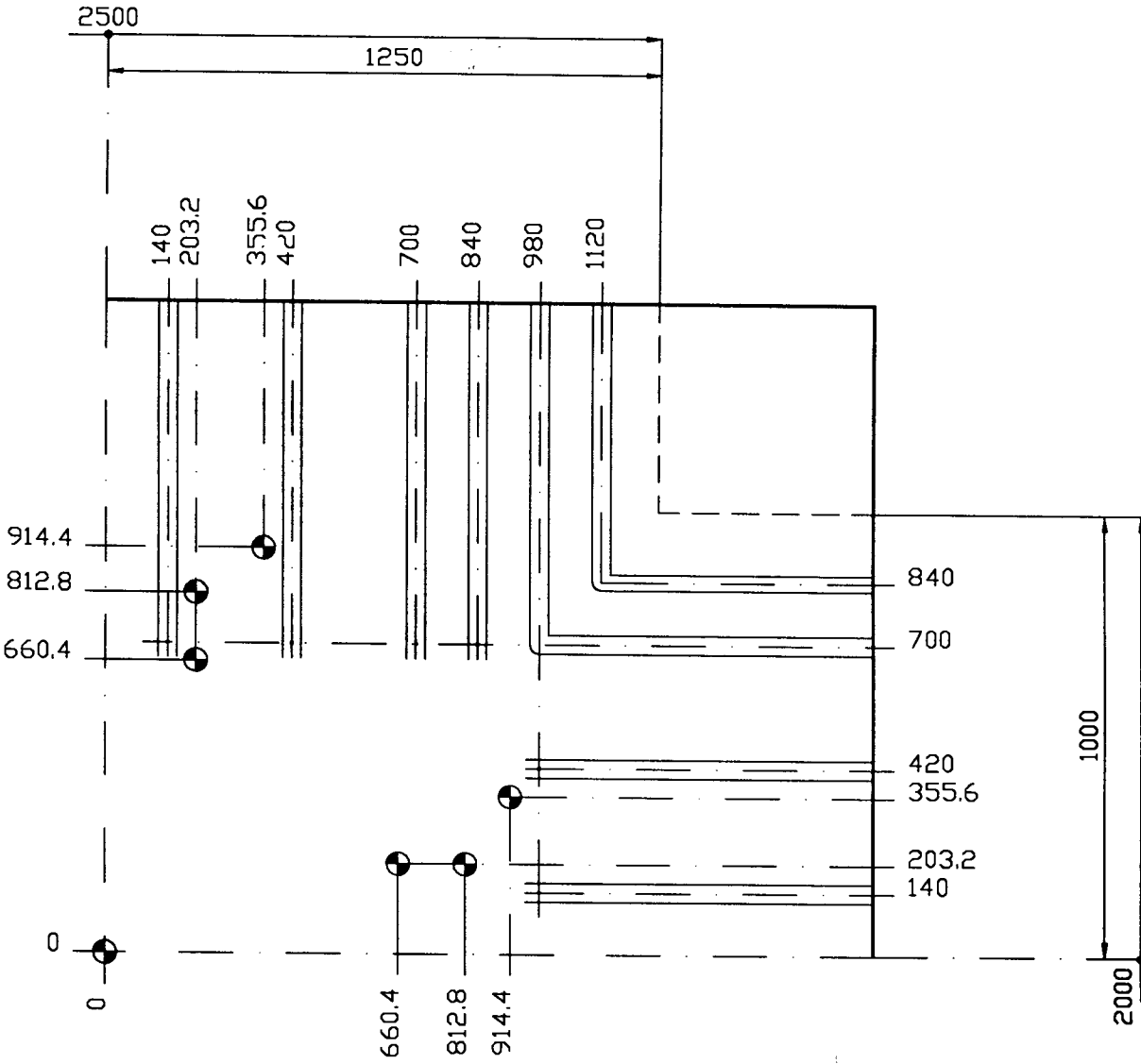
S 2000/2000



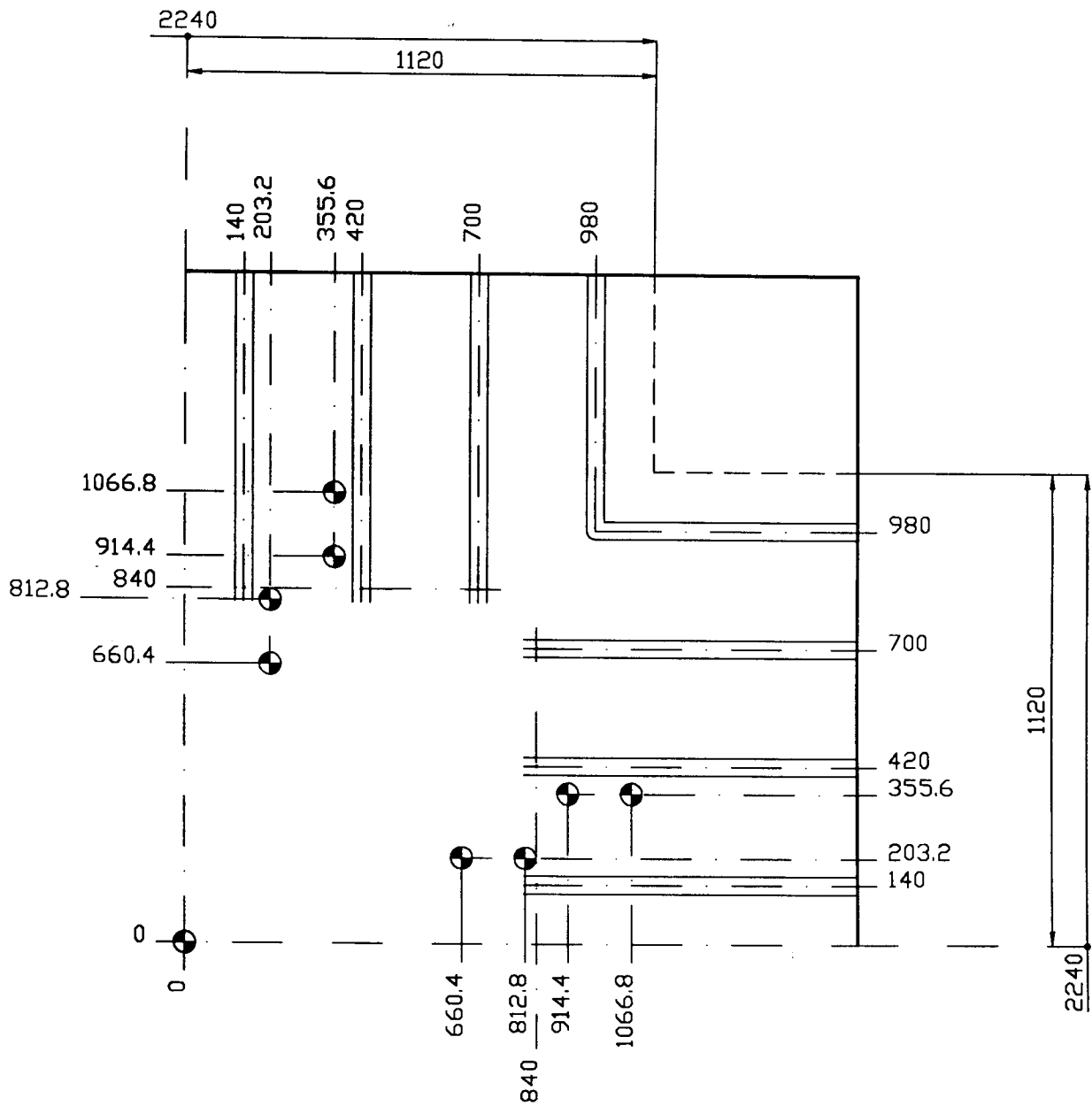
S 2240/2000



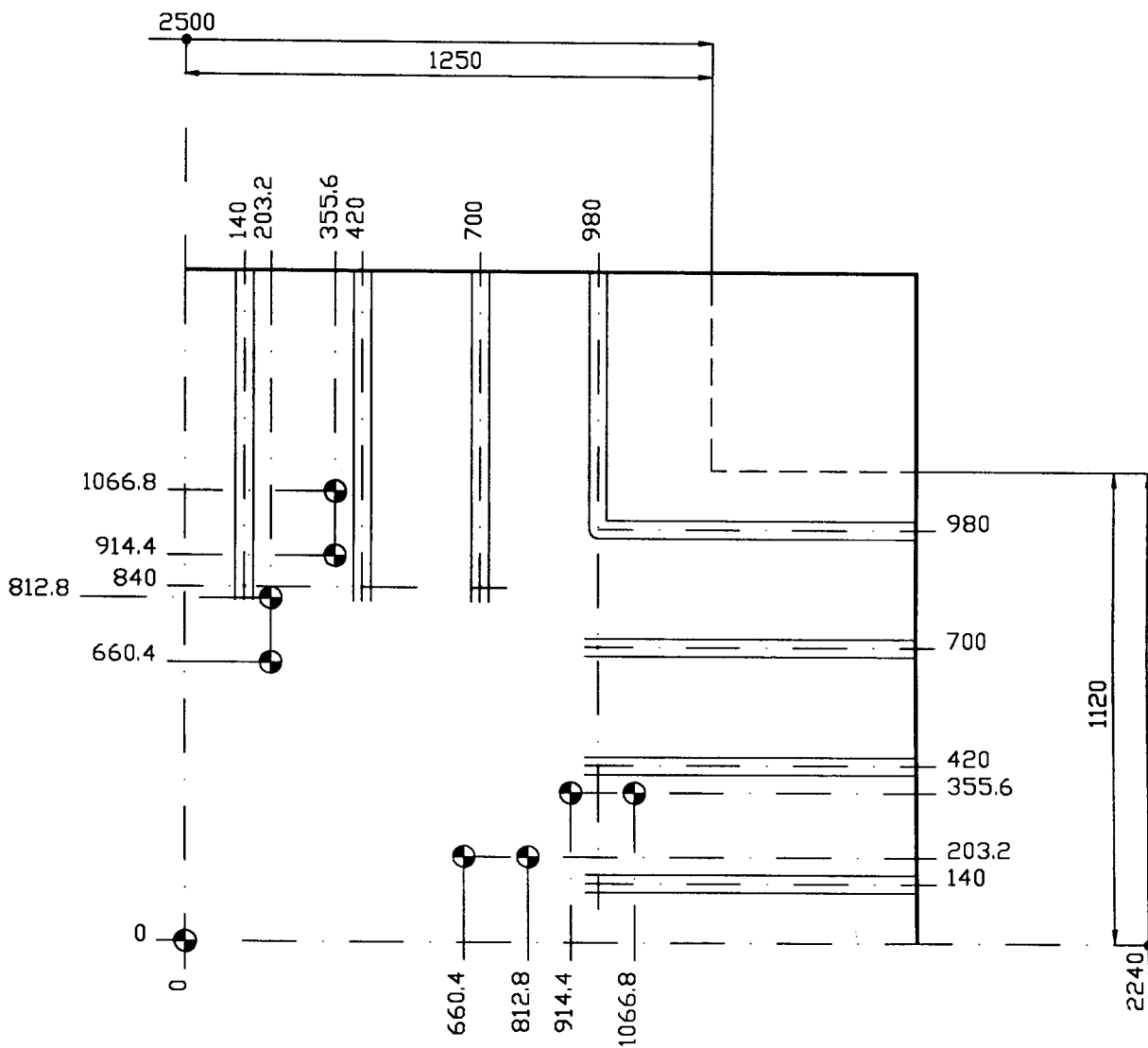
S 2500/2000



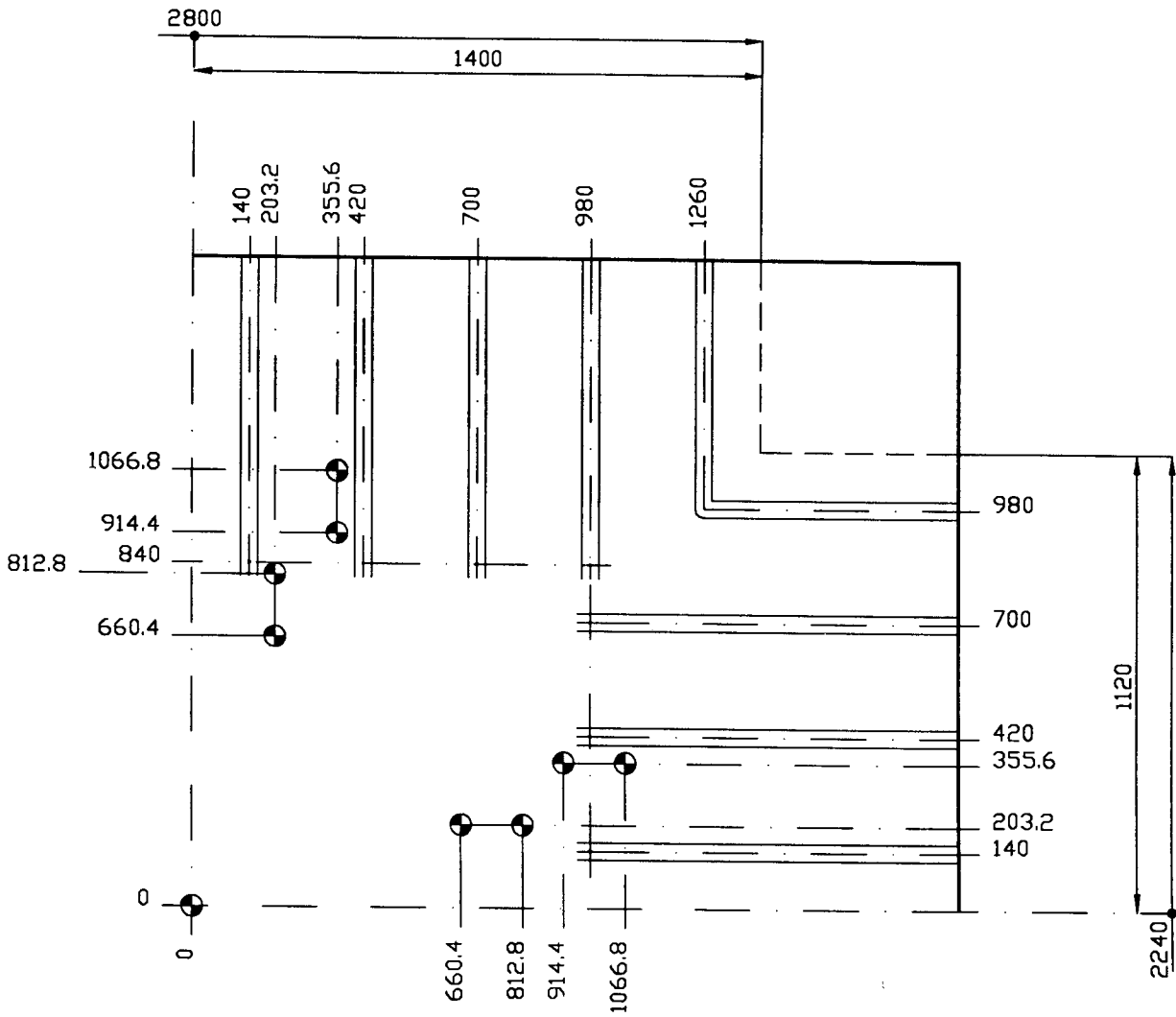
S 2240/2240



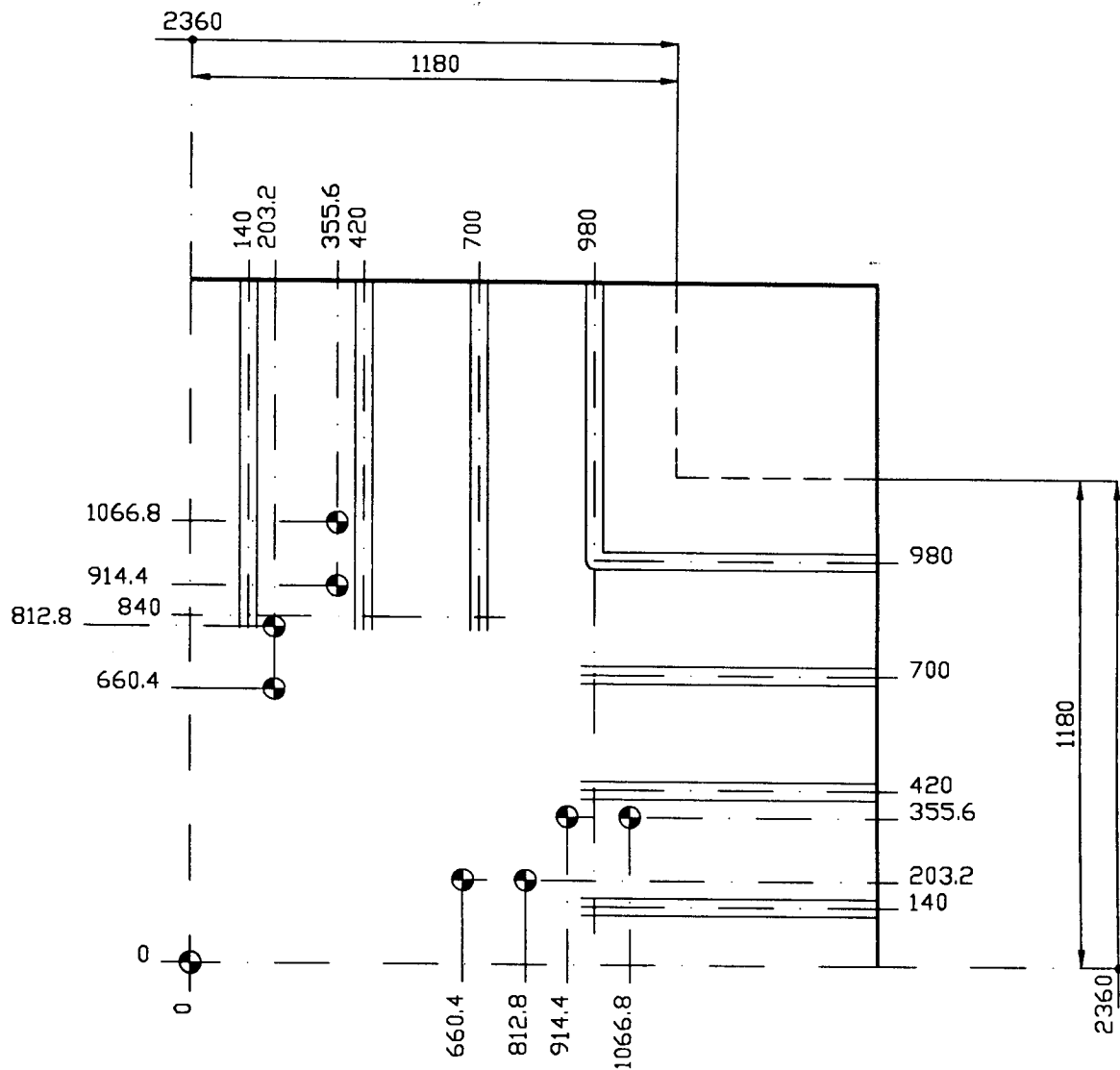
S 2500/2240



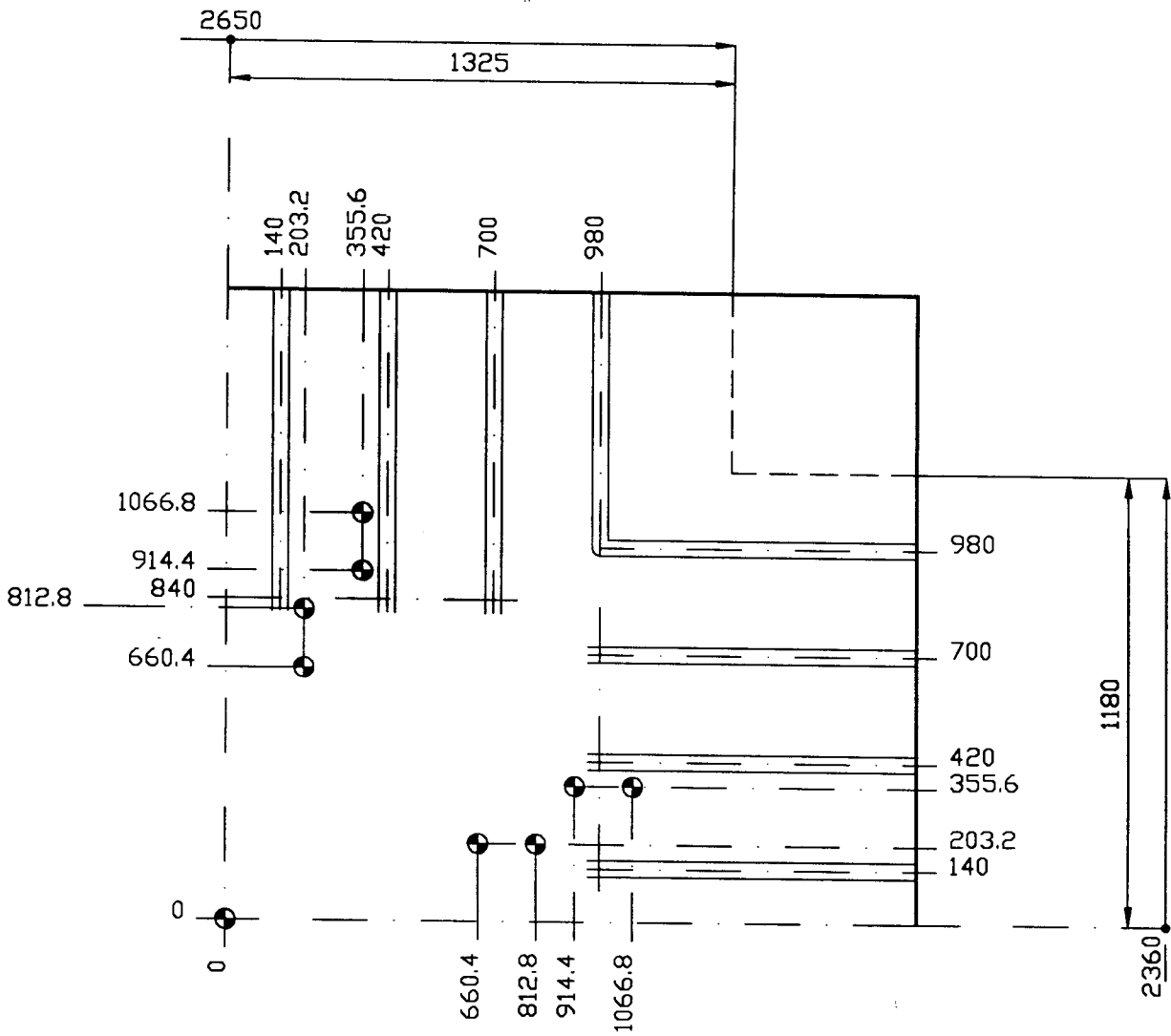
§ 2800/2240



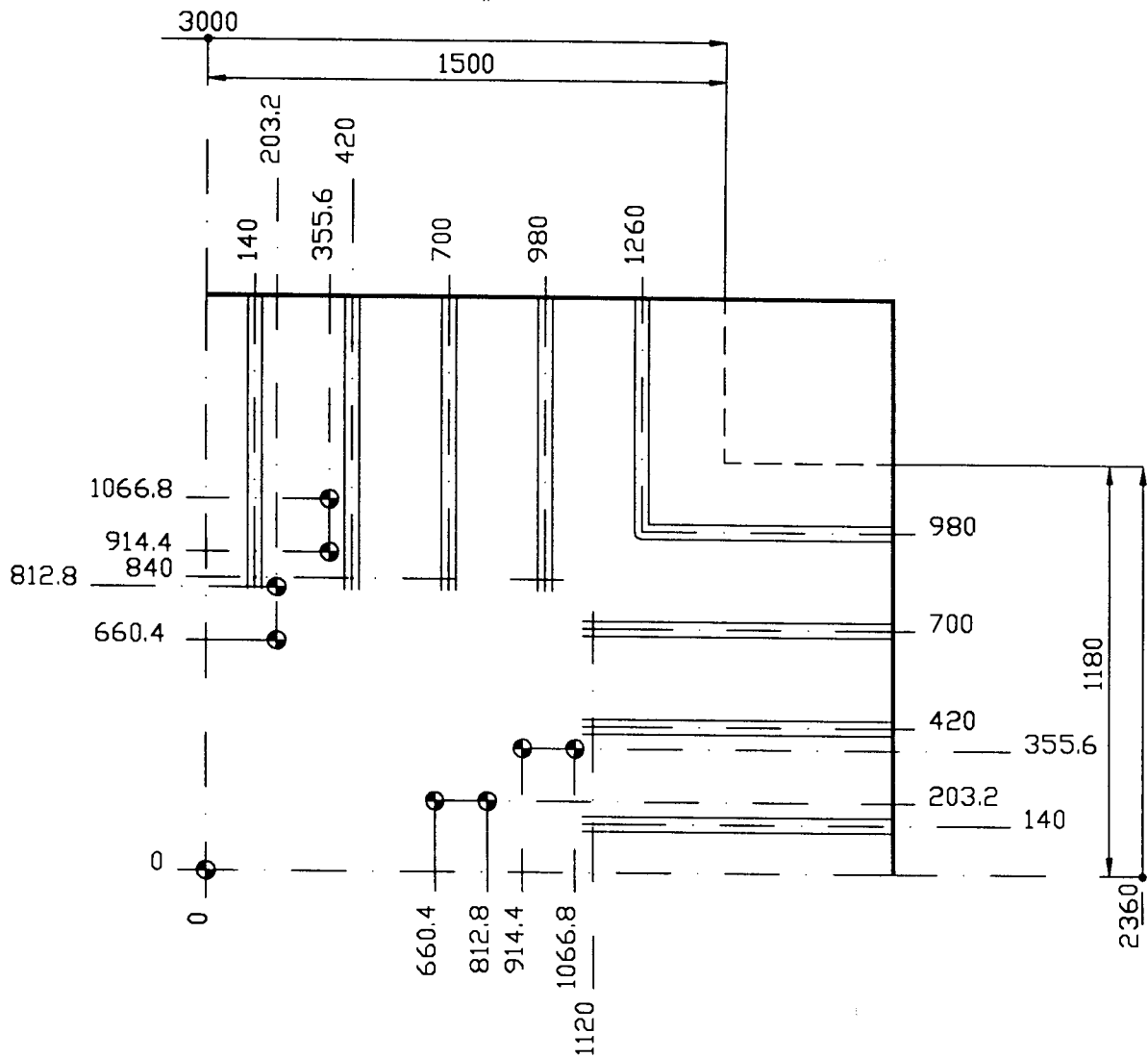
S 2360/2360



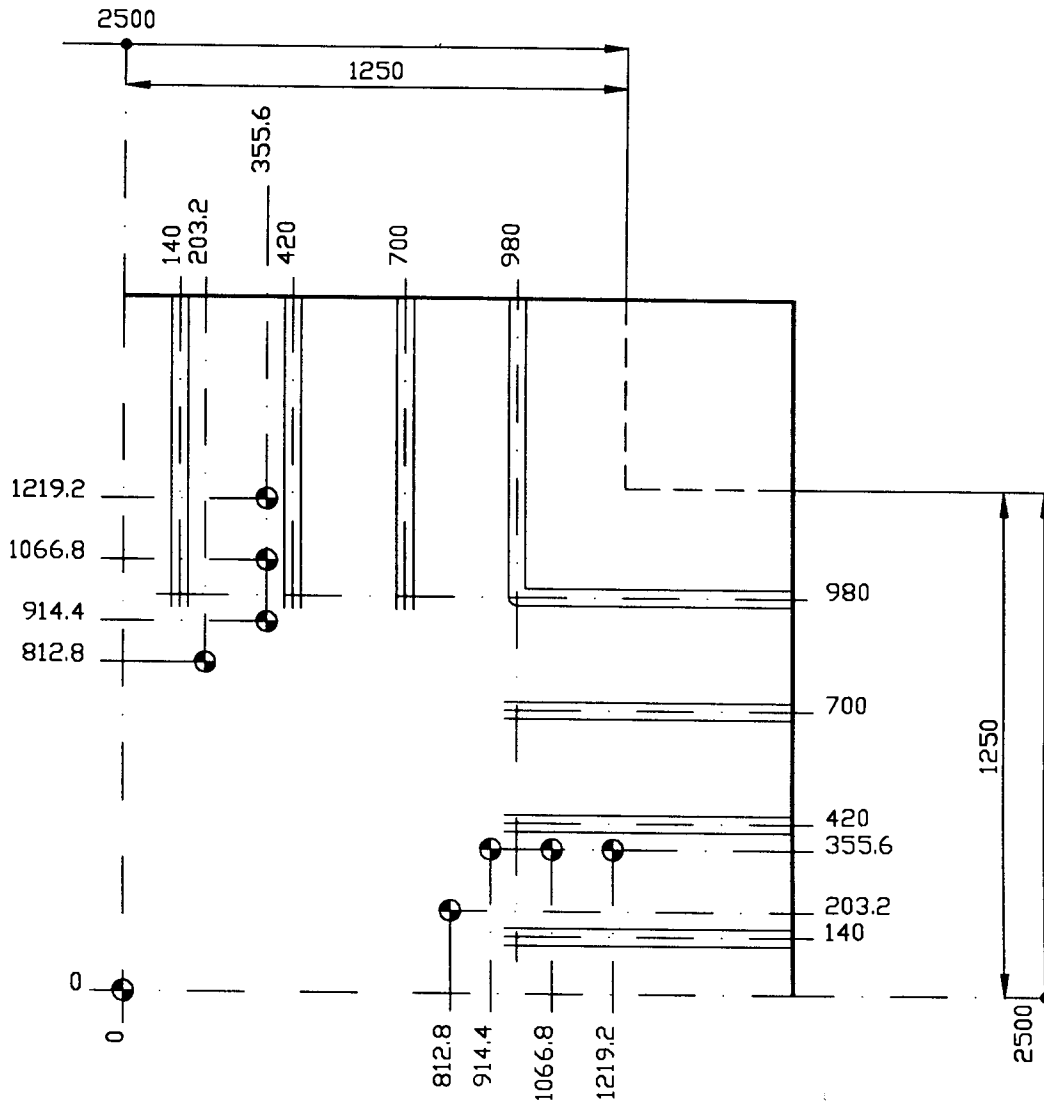
S 2650/2360



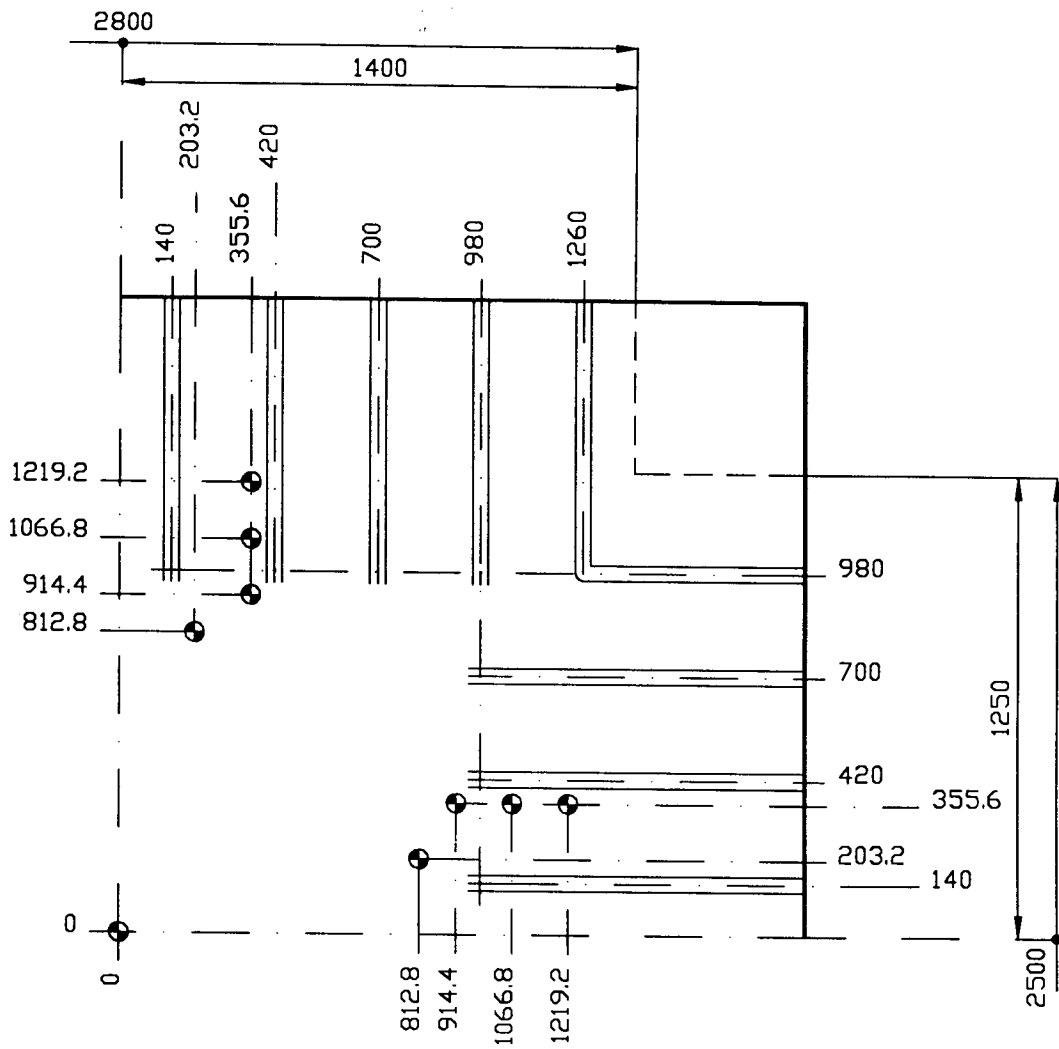
S. 3000/2360



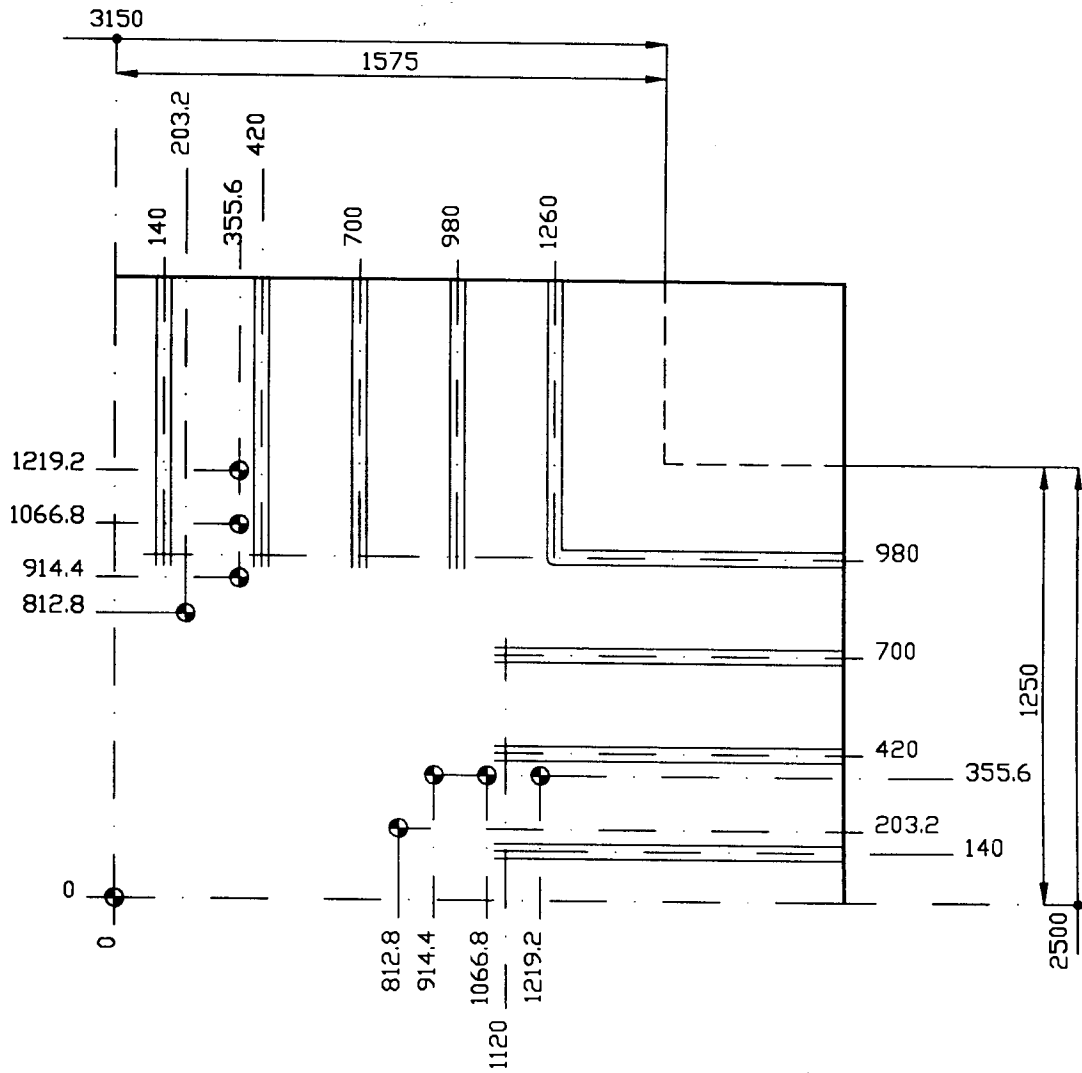
S 2500/2500



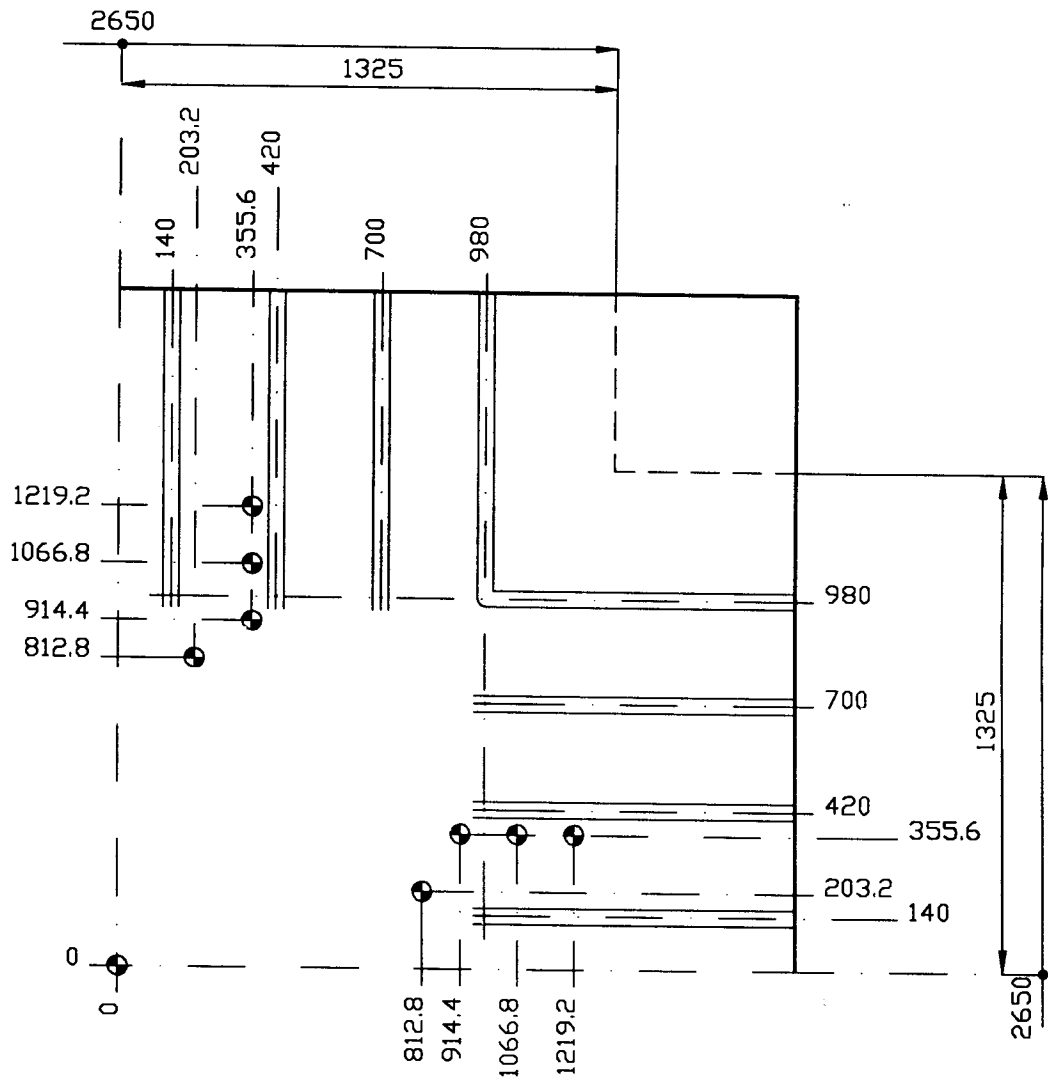
S 2800/2500



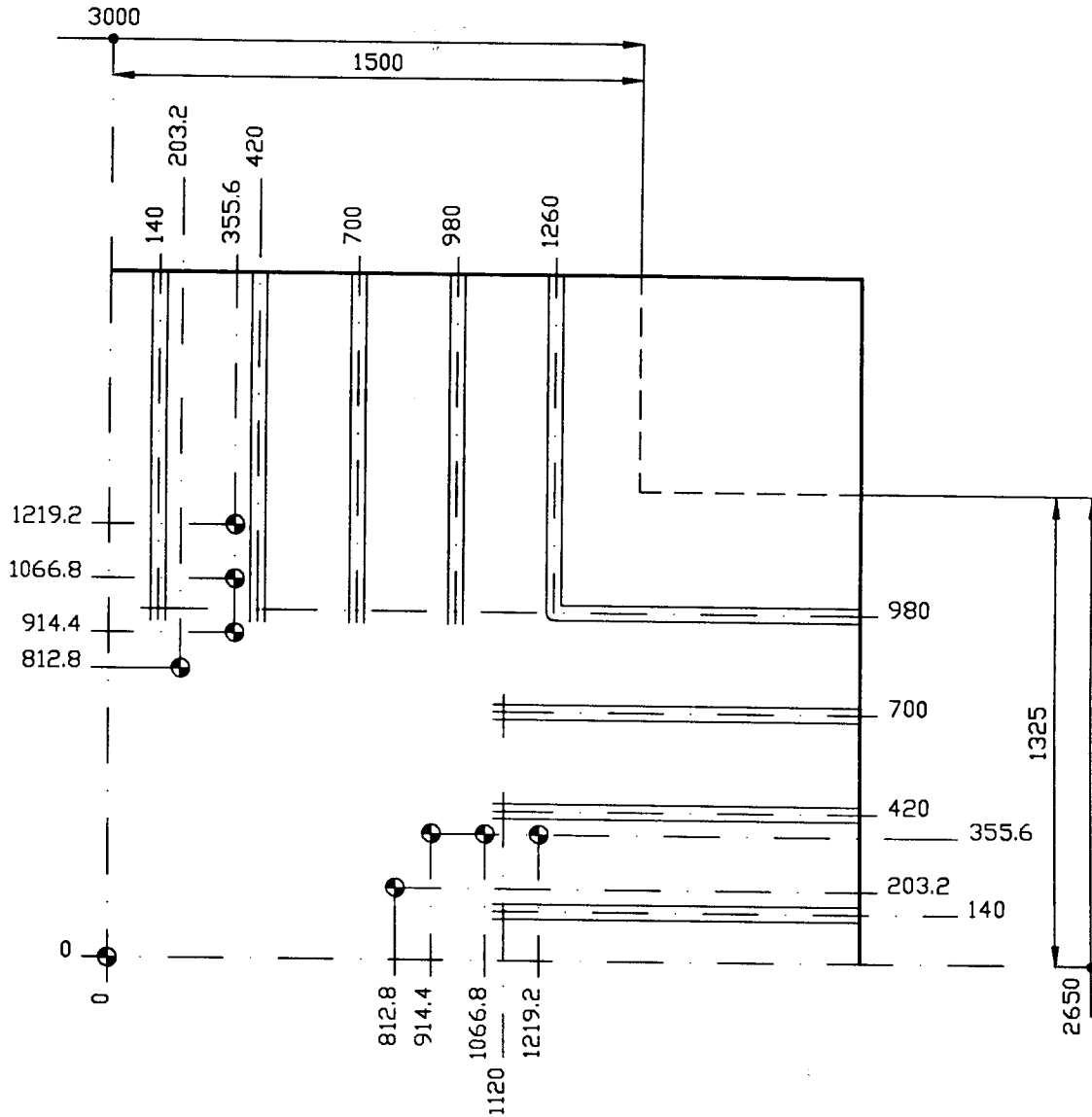
S 3150/2500



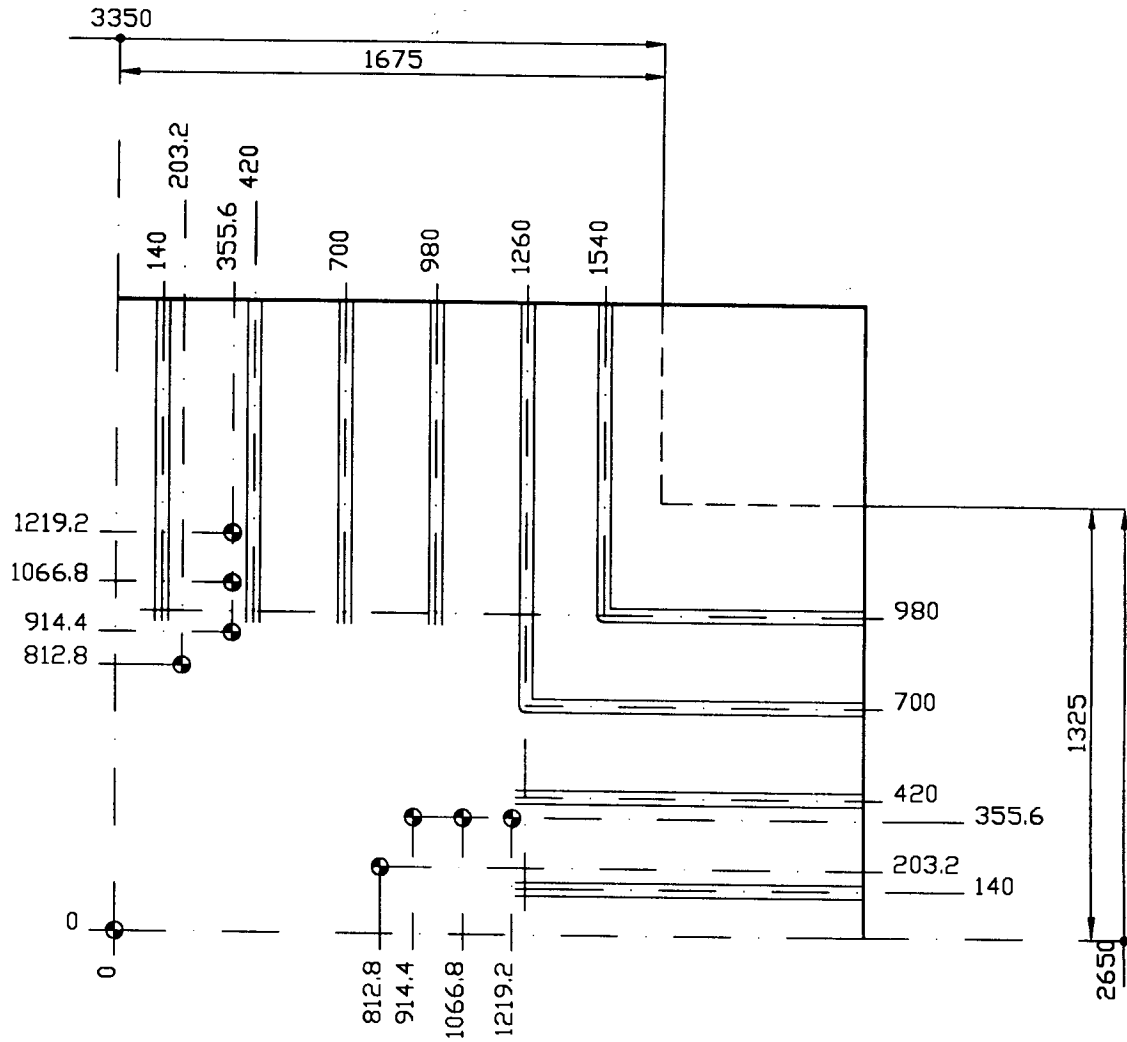
S 2650/2650



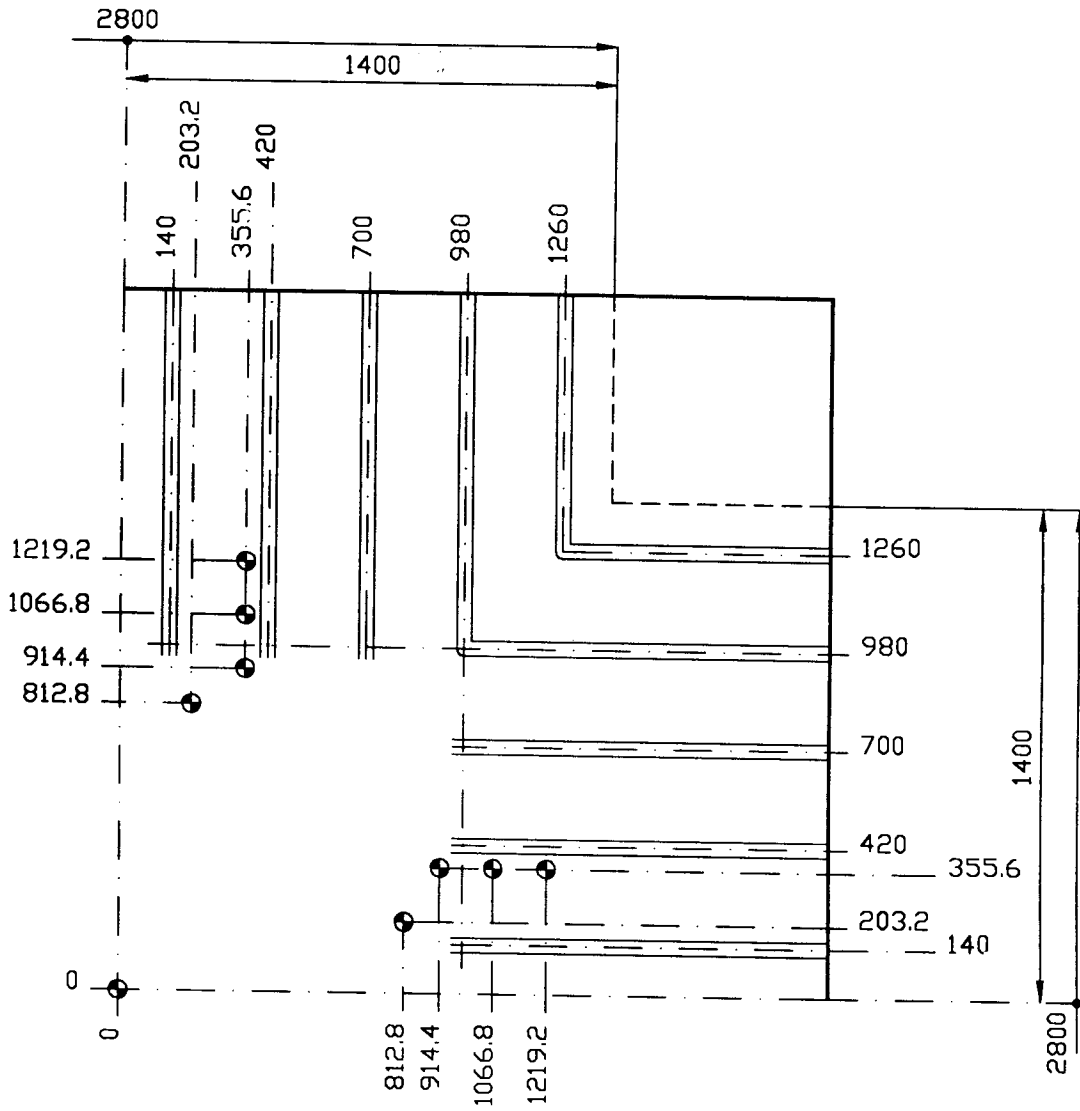
S 3000/2650



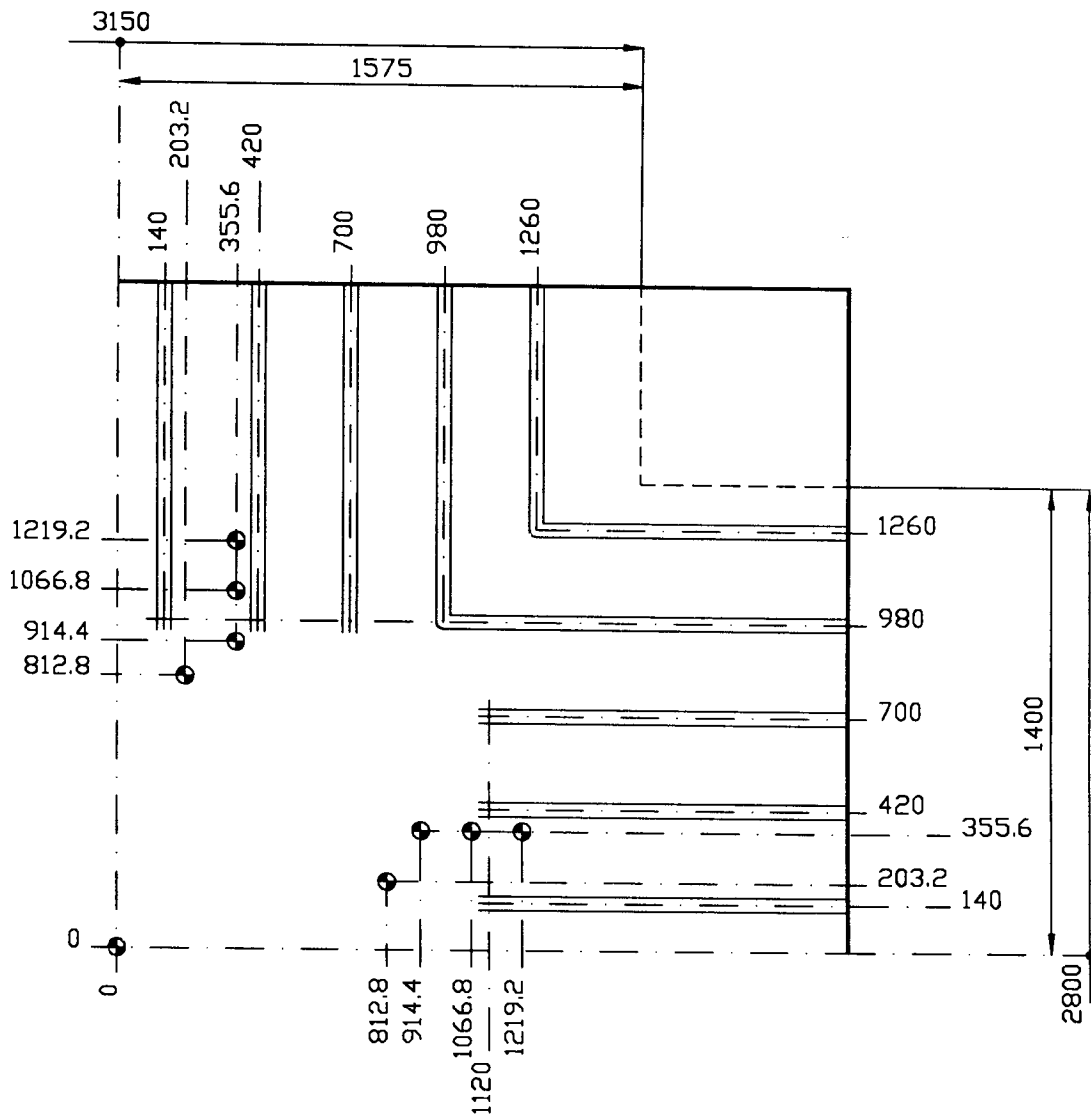
S 3350/2650



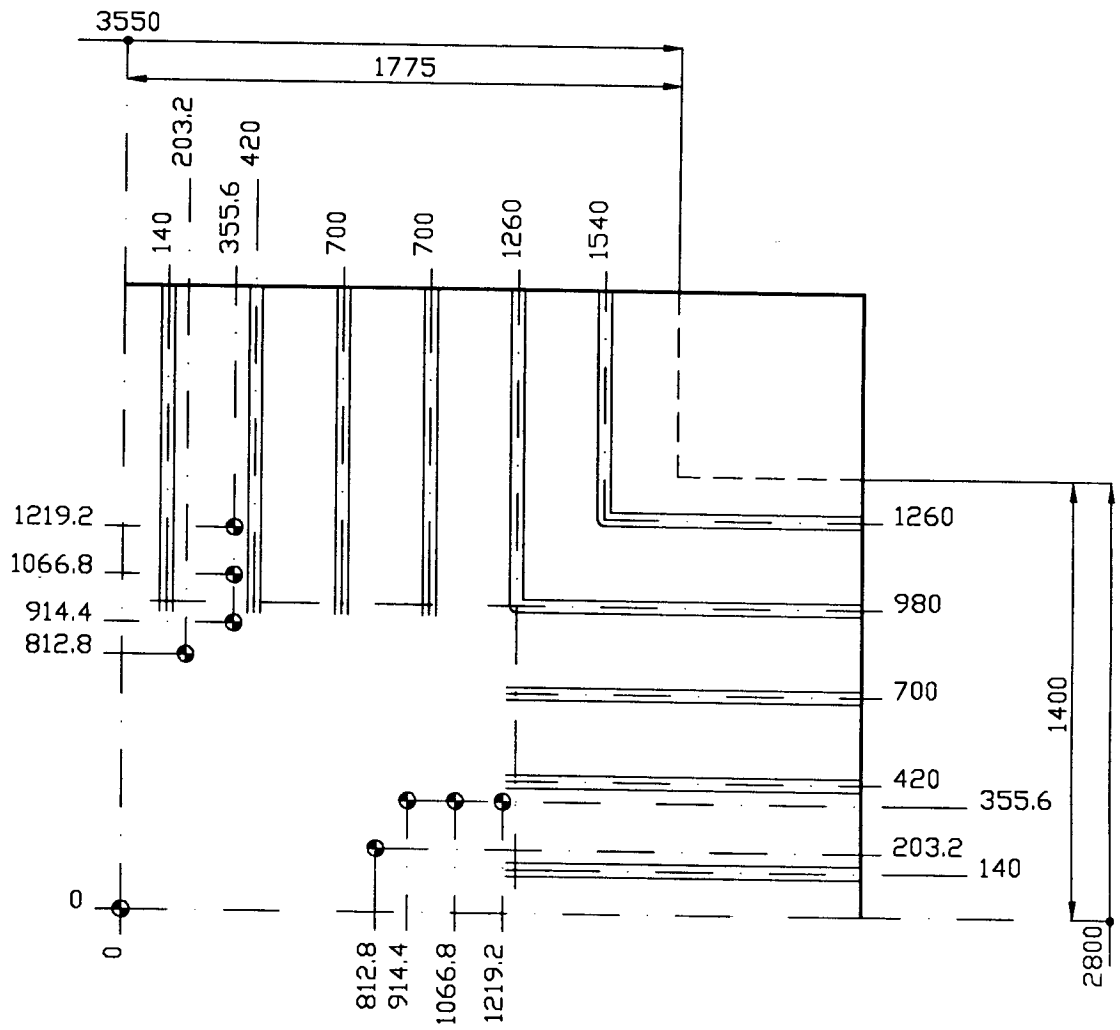
S 2800/2800



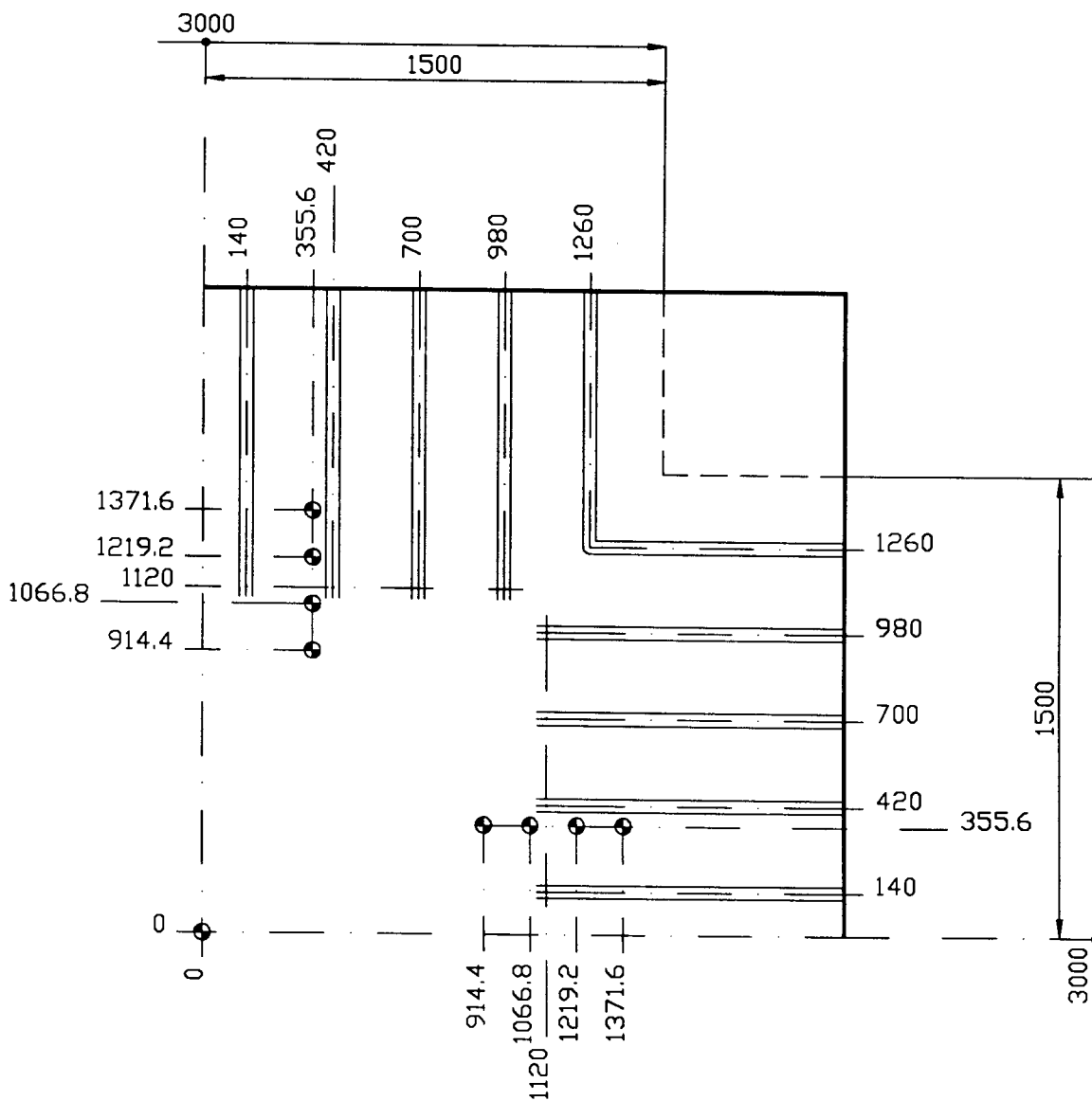
S 3150/2800



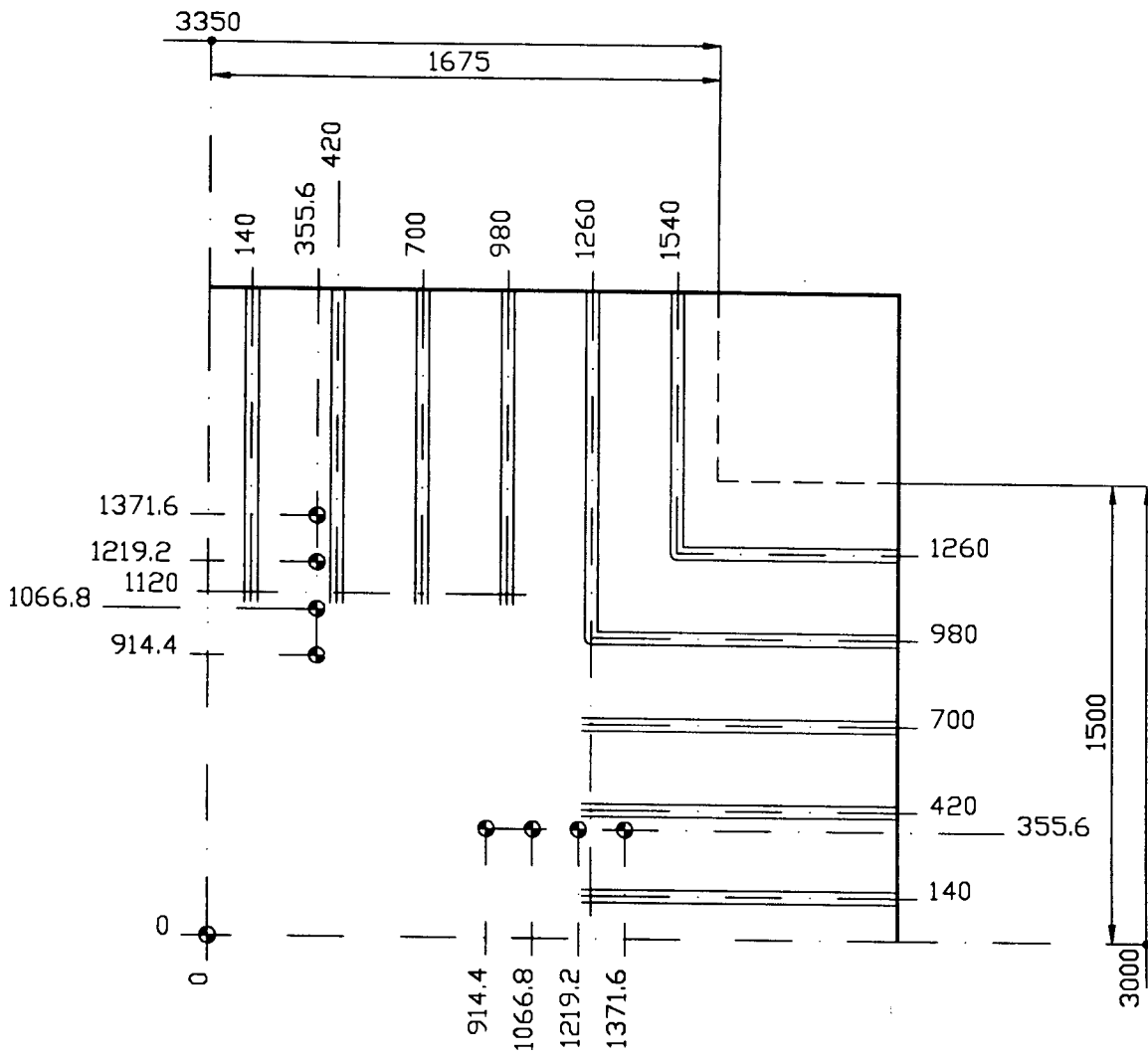
S 3550/2800



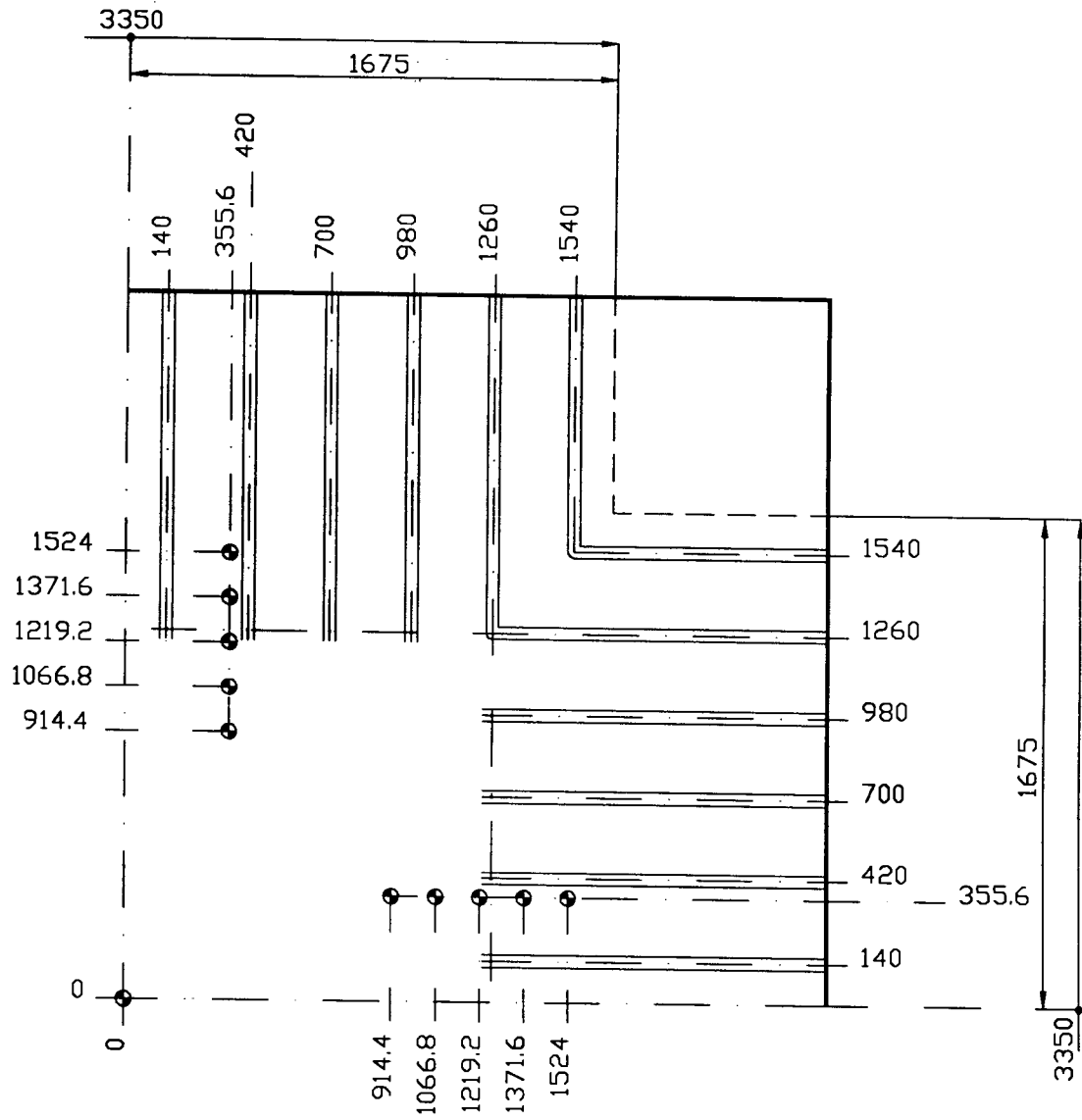
S 3000/3000



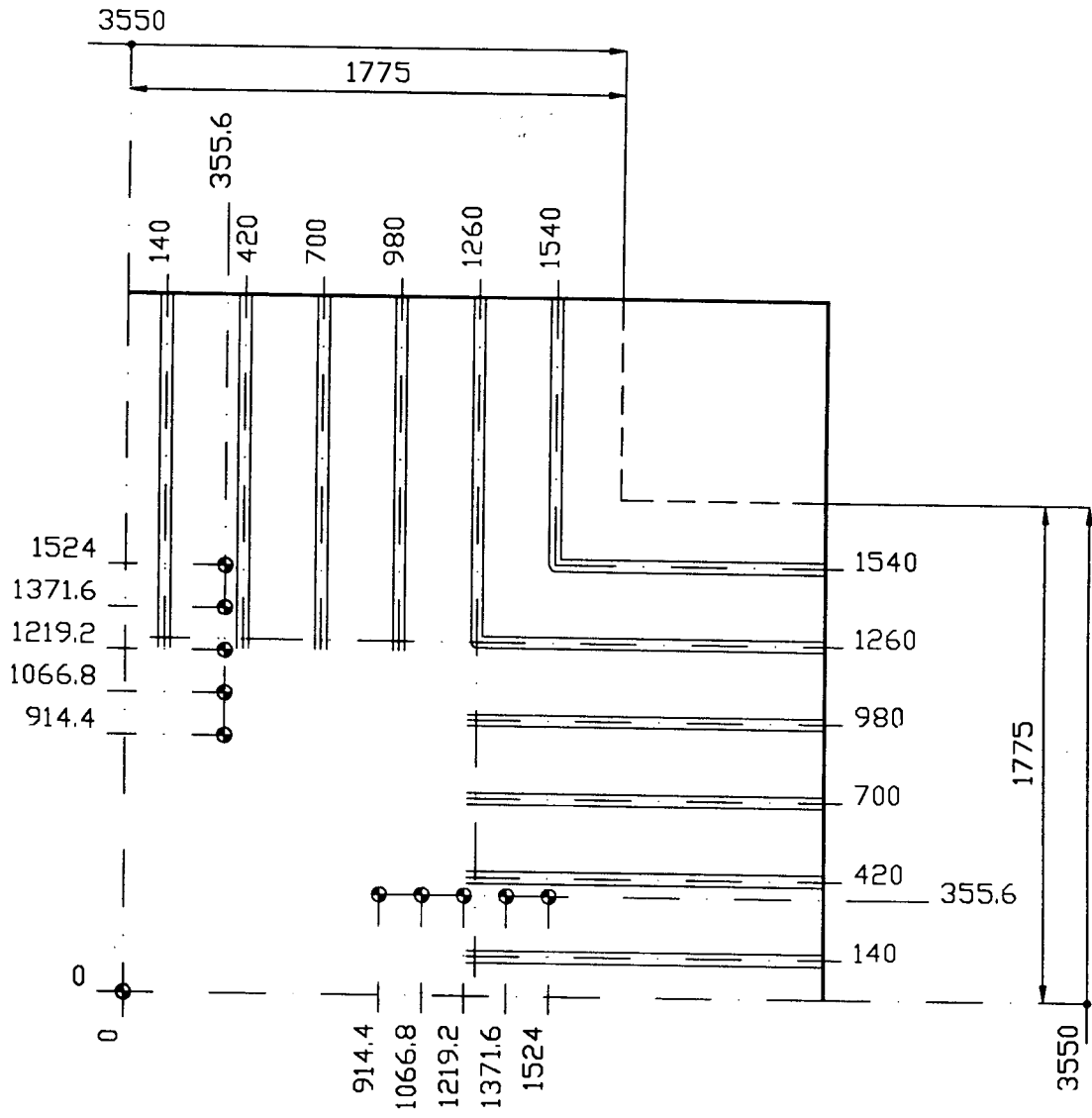
S 3350/3000



S 3350/3350



S 3550/3550



EUROMAP

Europäisches Komitee der Hersteller von Kunststoff- und Gummi-
maschinen

European Committee of Machinery Manufacturers for the Plastics and
Rubber Industries

Comité Européen des Constructeurs de Machines pour Plastiques et
Caoutchouc

Comitato Europeo Costruttori Macchine per Materie Plastiche e
Gomma

See you again

<http://www.euromap.org>