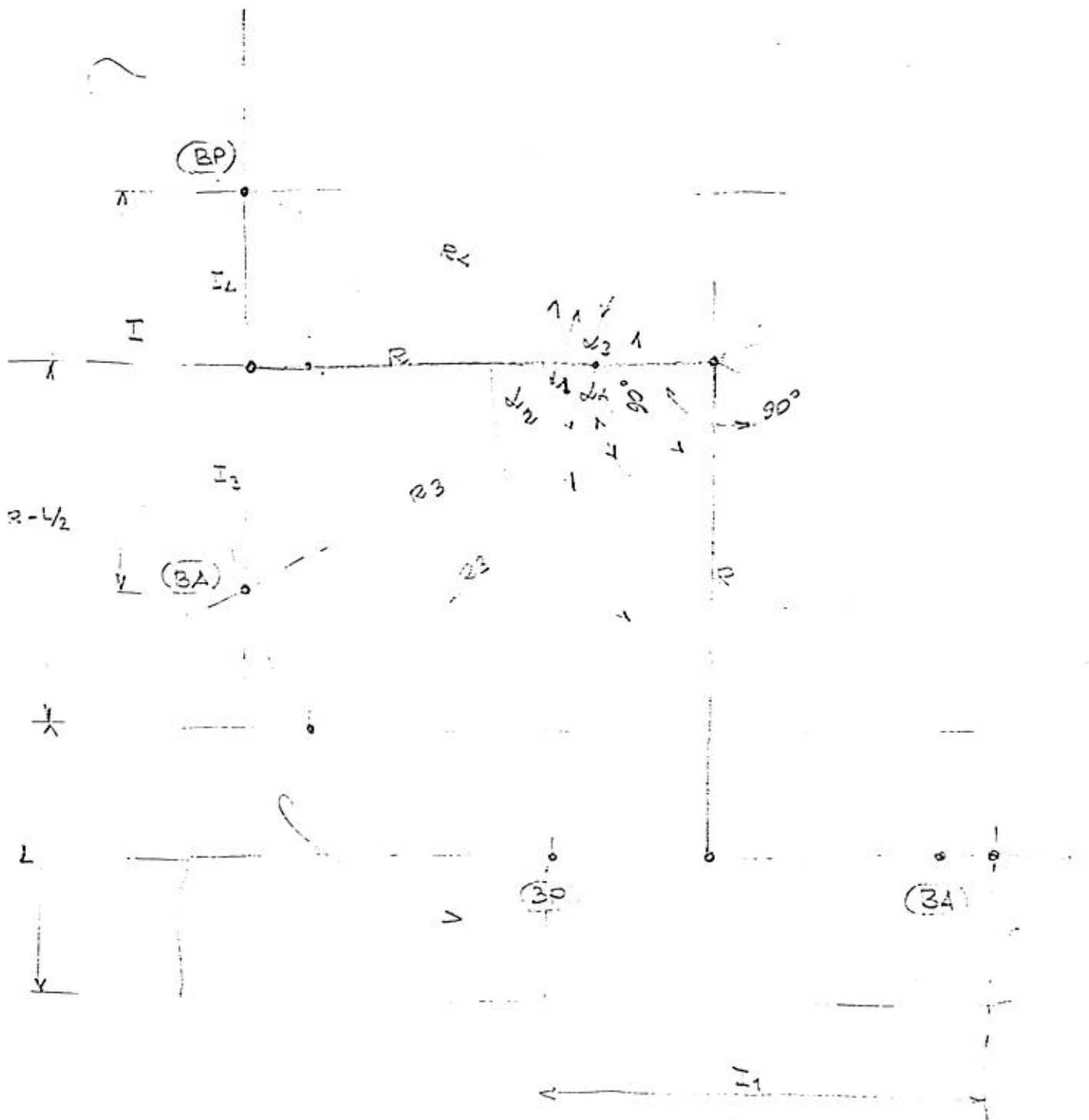
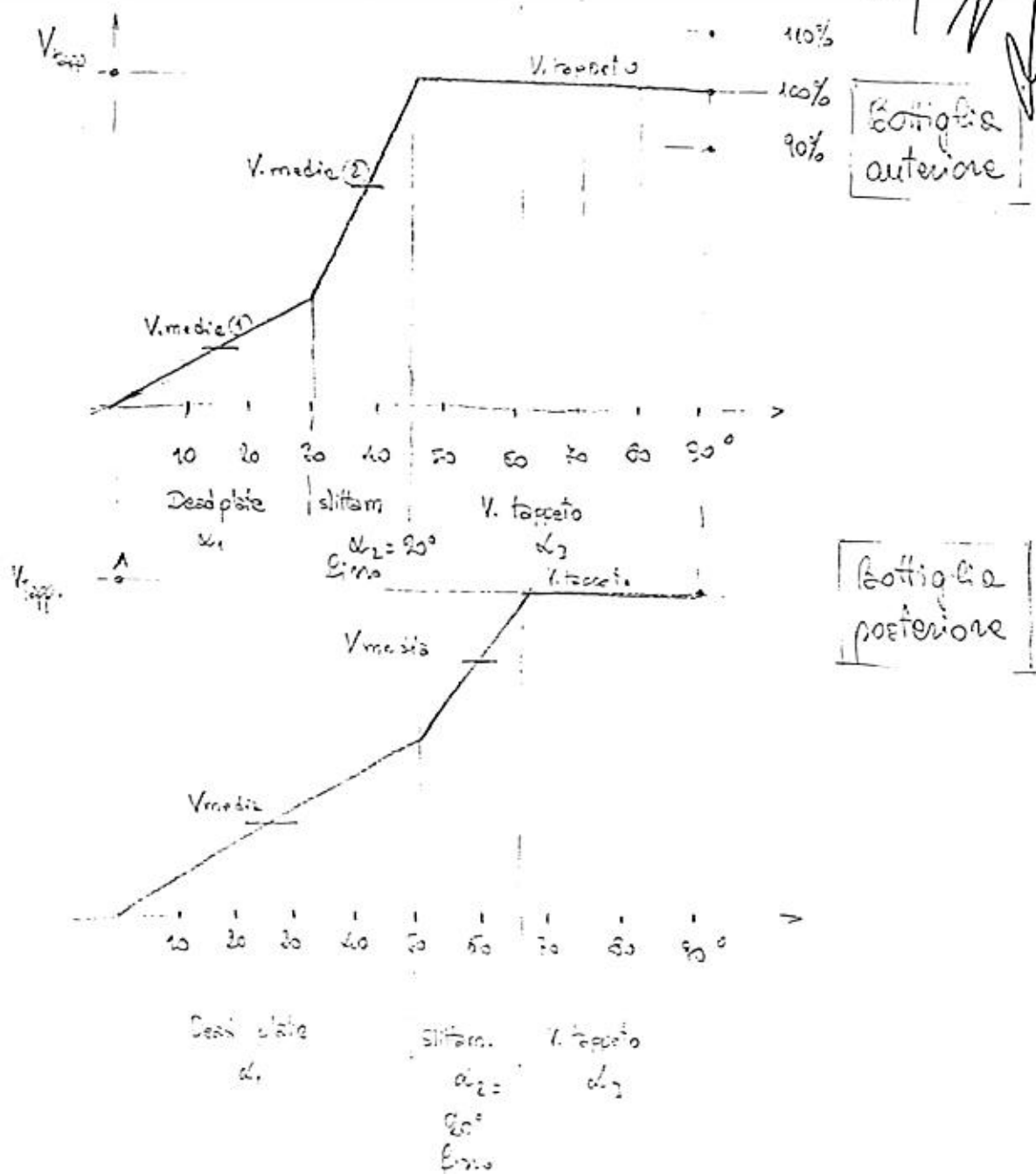


21/10/89 g
W&K

- Eseguito programma per calcolo della deriva delle bottiglie durante il trasferimento da piastre di raffreddamento al tappeto.

DER 1





$V_{media} \text{ bottiglia out. / cost.}$

$$\frac{V_{media} \textcircled{1} \cdot \alpha_1 + V_{media} \textcircled{2} \cdot \alpha_2 + V_{tappeto} \cdot \alpha_3}{\alpha_1 + \alpha_2 + \alpha_3} =$$

$$\Delta = \frac{V_{media} \text{ tot. bott out.}}{V_{media} \text{ tot. bott cost.}}$$

1 PRINT
2 PRINT
3 PRINT
4 PRINT
5 PRINT
6 PRINT
7 PRINT
8 PRINT
9 PRINT
10 PRINT
11 PRINT
12 PRINT
13 PRINT
14 PRINT
15 PRINT
16 PRINT
17 PRINT
18 PRINT
19 PRINT
20 PRINT "N. DI SEZIONI OPERATIVE :":
25 INPUT N
26 PRINT
30 PRINT "INTERASSE BOTTIGLIA ANTERIORE (mm)":
33 INPUT I3
34 PRINT
35 PRINT "INTERASSE BOTTIGLIA POSTERIORE (mm)":
38 INPUT I4
39 PRINT
40 PRINT "LARGHEZZA DEL TAPPETO (mm)":
45 INPUT L
46 PRINT
50 PRINT "RAGGIO SPINGITORE (mm)":
55 INPUT R
56 PRINT
60 PRINT "SPAZIATURA RICHIESTA (mm)":
65 INPUT S
66 PRINT
70 PRINT "VELOCITA' SEZIONE (toli/1')":
75 INPUT V
76 PRINT
80 PRINT "V. MAX SPINGITORE (% di V):":
85 INPUT A
86 PRINT
90 PRINT "ANGOLO DI V. MAX SPINGITORE (gradi)":
95 INPUT B
96 PRINT
100 REM CALCOLO INTERASSE TEORICO TRA LE BOTTIGLIE
110 I=I3+I4
126 PRINT
320 REM*****CALCOLO ANGOLO BOTTIGLIA ANTERIORE (A3-GRADI)****
330 A3=(ATN(I3/R))*57.295779516
340 REM*****CALCOLO ANGOLO BOTTIGLIA POSTERIORE (A4-GRADI)****
350 A4=(ATN(I4/R))*57.295779516
360 REM*****CALCOLO ANGOLO TOTALE (A1-GRADI)*****
370 A1=A3+A4
400 REM*****CALCOLO RAGGIO S.A. (R3-MM)*****
410 R3=((I3^2+R^2)^.5)
415 REM*****CALCOLO RAGGIO P.P. (R4-MM)*****
418 R4=((I4^2+R^2)^.5)
420 REM*****CALCOLO ALFA2 (A2-GRADI)*****
430 A2=(ATN((R-L/2)/((R3^2-(R-L/2)^2)^.5)))*57.295779516
500 REM*****CALCOLO VELOCITA' TEORICA TAPPETO (V1-M/1')*****
510 V1=N*V*5/1000
600 REM*****CALCOLO ANGOLO BLANT. SU DRAP PLATE (B1-GRADI)*****
610 B1=A1-A3
620 REM*****
630 B2=A1-A4
640 REM*****

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660 REM*****CALCOLO V.B.A.MEDIA SU DEAD PLATE (V3-M/1')*****
670 V3=B1*V2/8/2
680 REM*****CALCOLO V.B.P.MEDIA SU DEAD PLATE (V4-M/1')*****
690 V4=B2*V2/8/2
700 REM*****INSERIMENTO ANGOLO DI CAMBIO VELOCITA' (B3-GRADI)*****
710 B3=20
720 REM*****CALCOLO V.B.A.MEDIA NEL CAMBIO VELOCITA' (V5-M/1')*****
730 V5=(V1+V3*2)/2
740 REM*****CALCOLO V.B.P.MEDIA NEL CAMBIO VELOCITA' (V6-M/1')*****
750 V6=(V1+V4*2)/2
800 REM*****CALCOLO ANGOLO RIMAN. B.ANT. SU TAPPETO (B4-GRADI)*****
810 B4=90-B1-B3
820 REM*****CALCOLO ANGOLO RIMAN. B.POST. SU TAPPETO (B5-GRADI)*****
830 B5=90-B2-B3
840 REM*****CALCOLO V.B.A.MEDIA SUL TAPPETO (V7-M/1')*****
850 V7= V1
860 REM*****CALCOLO V.B.P.MEDIA SUL TAPPETO (V8-M/1')*****
870 REM DA COMPL.
900 REM*****CALCOLO V.B.A.MEDIA TOTALE (V0-M/1')*****
910 V0=(V3*B1+V5*B3+V1*B4)/90
1000 REM*****CALCOLO V.B.P.MEDIA TOTALE (V9-M/1')*****
1010 V9=(V4*B2+V6*B3+V1*B5)/90
1100 REM*****CALCOLO % DERIVA*****
1110 VD=V0/V9 : VD=(VD-1)*100
1200 REM*****CALCOLO INTERASSE PRATICO SU CONVEYOR*****
1210 I1=I*VD
1220 PRINT
1231 PRINT
1232 PRINT
1233 PRINT
1234 PRINT
1235 PRINT
1236 PRINT
1237 PRINT
1240 PRINT"INTERASSE TEORICO BOTTIGLIA ANTERIORE (mm) " : I3
1250 PRINT
1260 PRINT
1270 PRINT"INTERASSE TEORICO BOTTIGLIA POSTERIORE (mm) " : I4
1280 PRINT
1290 PRINT
1300 PRINT"INTERASSE TEORICO TRA LE BOTTIGLIE (mm) " : I
1306 PRINT
1307 PRINT
1310 PRINT"INTERASSE PRATICO SUL CONVEYOR (mm) " : I1
1315 PRINT
1316 PRINT
1320 PRINT"SCORRIMENTO % " : VC
1330 PRINT
1340 PRINT
1350 PRINT
1360 PRINT
1410 PRINT "VUOI USCIRE DAL PROGRAMMA ? S/N " :
1420 INPUT A$
1430 IF A$ = "N" THEN 20
1440 PRINT"BYE"
1450 END

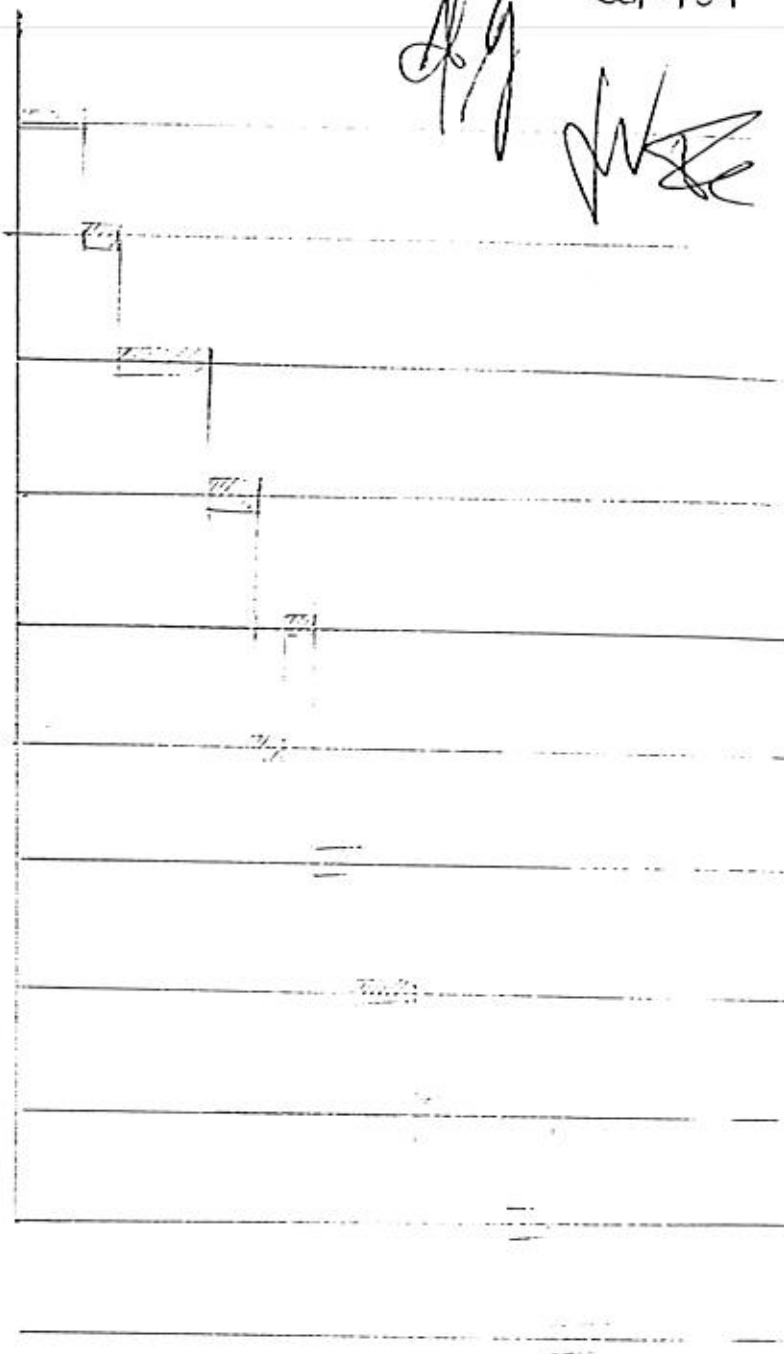
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28/11/89

Ag

W

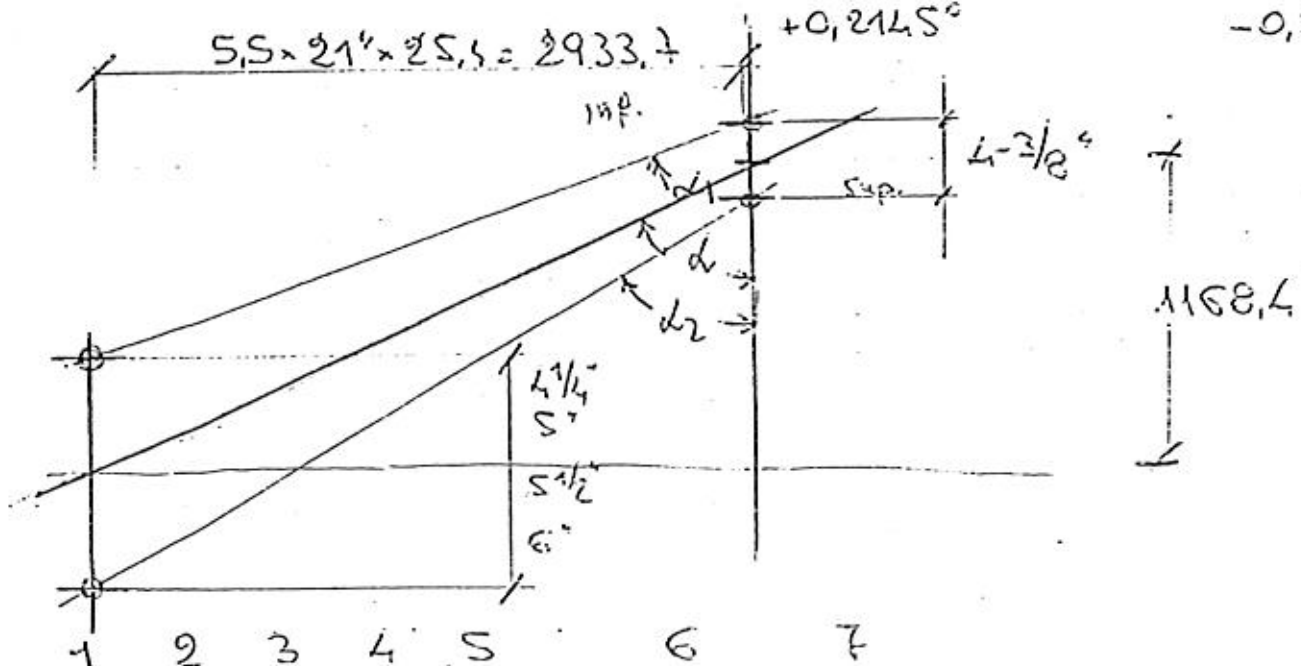
- RITORNO braccio pinza
cinquante
- CHIUSURA pinzette
- USCITA braccio pinza
- ATTESA su p. plate
- APERTURA pinzette
- ABBASSAM. braccio pinza
- SOLLAVAMENTO braccio pinza
- SPOSTAMENTO cilindro (OUT)
- ROTAZIONE cilindro su tappeto
- RITORNO cilindro (IN)
- ROTAZIONE cilindro sul p. plate



DELIVERY ANGLES

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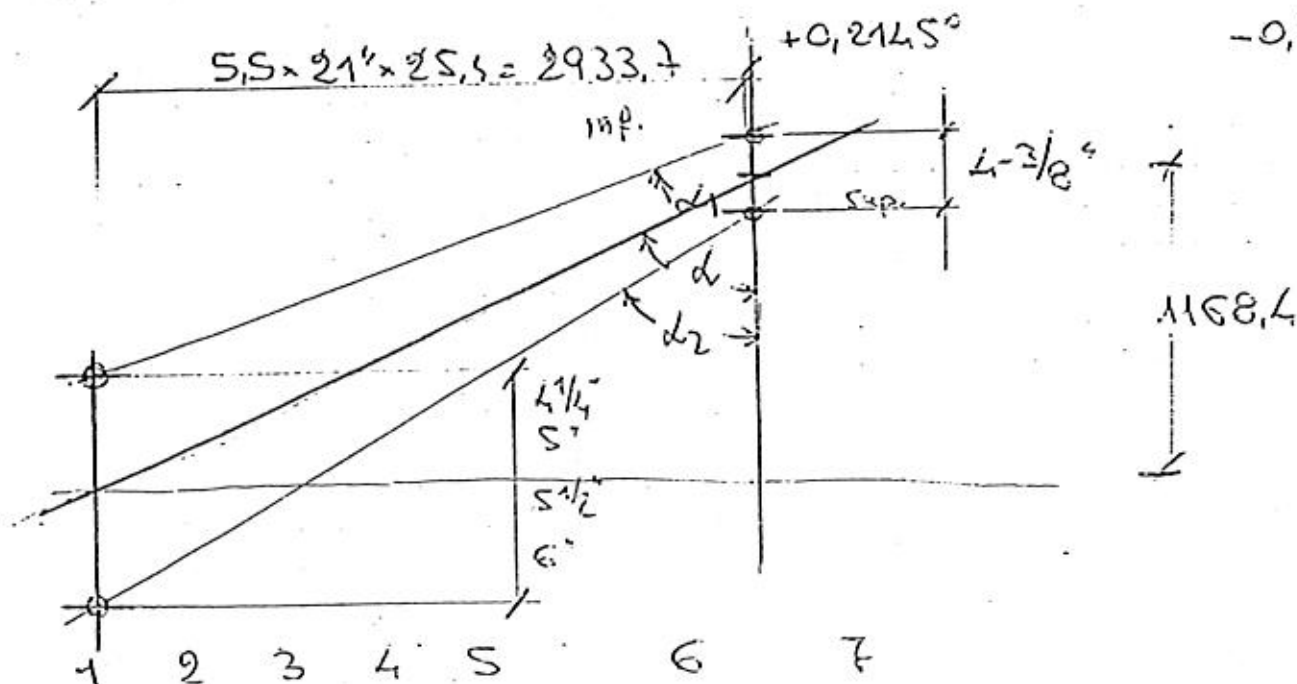
Interasse Feeder	Interasse Machine	Section 12	Upper α_1	Middle α	Lower α_2
$4\frac{3}{8}"$	$4\frac{1}{4}"$		$68,2574^\circ$ $-0,0267^\circ$	$68,2841^\circ$	$68,3109^\circ$ $+0,0268^\circ$
4	5"		$68,418^\circ$ $+0,1333^\circ$	"	$68,150^\circ$ $-0,1341^\circ$
4	$5\frac{1}{2}"$		$68,5252^\circ$ $+0,2413^\circ$	"	$68,0437^\circ$ $-0,2404^\circ$
4	6"		$68,6329^\circ$ $+0,3488^\circ$	"	$67,9371^\circ$ $-0,347^\circ$
5"	6"		$68,4986^\circ$ $+0,2145^\circ$	"	$68,0704^\circ$ $-0,2137^\circ$



DELIVERY ANGLE

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Interasse Feeder	Interasse Machine	Section 12	Upper d_1	Middle d	Lower d_2
$L-3/8"$	$L-1/4"$		$68,254^\circ$ $-0,0267^\circ$	$68,2841^\circ$	$68,3109^\circ$ $+0,0268^\circ$
4	$5"$		$68,418^\circ$ $+0,1339^\circ$	$=$	$68,150^\circ$ $-0,1341^\circ$
4	$5\frac{1}{2}"$		$68,5252^\circ$ $+0,2413^\circ$	$\neq$	$68,0437^\circ$ $-0,2404^\circ$
4	$6"$		$68,6329^\circ$ $+0,3489^\circ$	$"$	$67,9371^\circ$ $-0,347^\circ$
$5"$	$6"$		$68,4986^\circ$ $+0,2145^\circ$	$\neq$	$68,0704^\circ$ $-0,2137$



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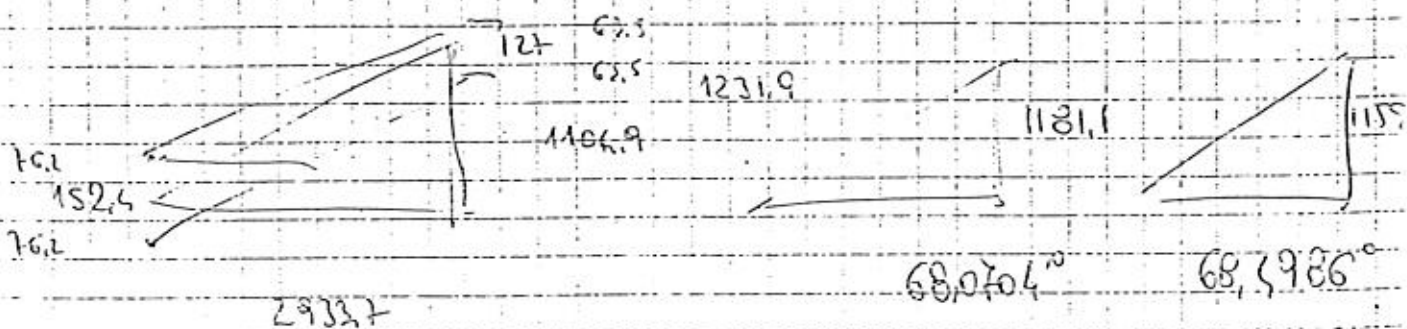
Feeder	Machine	Teor. Section 12	upper	lower
4-3/8	4-1/4"	68,284°	68,310° 68,310° 68,251° -0,0267°	68,310° 68,251° 68,310° +0,0268°

4	5"	4	68,418° +0,1339	68,150° -0,1341
---	----	---	--------------------	--------------------

4	5 1/2"	4	68,5254° +0,2413°	68,0437° -0,2404
---	--------	---	----------------------	---------------------

4	6"	4	68,6329° +0,3288°	67,9371° -0,327°
---	----	---	----------------------	---------------------

5"	6"	4
----	----	---



$$4-3/8"$$

$$6"$$

152.4

2933.7

1 ref

$$\alpha = 68,2841$$

$$\alpha_1 = 68,6329^\circ$$

$$\alpha_2 = 67,9371^\circ$$

$$\Delta = 68,2841 \rightarrow \text{inf. } +0,3488^\circ$$

$$\rightarrow \text{sup. } -0,347^\circ$$

$$4-3/8"$$

$$5 1/2"$$

139.7

2933.7

111.125

inf

1154,1125

1111,1125

sup

1182,6875

$$\alpha = 68,2841$$

$$\alpha_1 = 68,7405^\circ$$

$$\alpha_2 = 68,0437^\circ$$

$$\Delta = 68,2841 \rightarrow \text{inf. } +0,2413^\circ$$

$$\rightarrow \text{sup. } -0,2404^\circ$$

$$5"$$

$$\alpha = 68,2841$$

$$\alpha_1 = 68,418^\circ$$

$$\alpha_2 = 68,150^\circ$$

$$\Delta = 68,2841 \rightarrow +0,1339$$

$$\rightarrow -0,1341$$

1169,8875

1166,8125

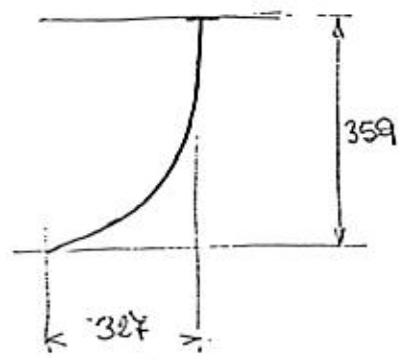
2/12/69

[Handwritten signature]

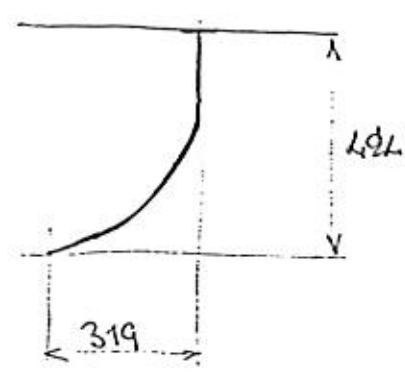
QUOTE SCOOPS

Bottero :

55-E3-23 Sup (Aluminum)
2-3

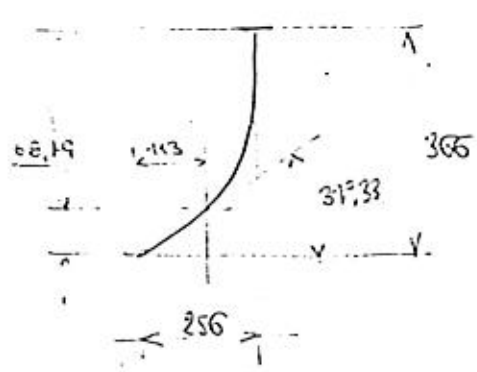


B391-582 Inf- (Aluminum)
2-3



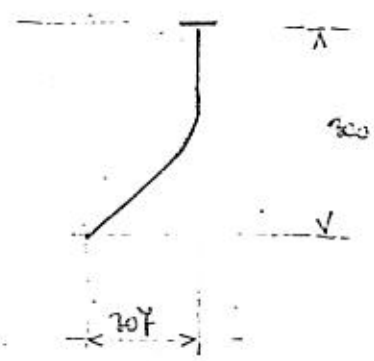
Emhart :

523-5215 Inf. (Aluminum)



Mail B.

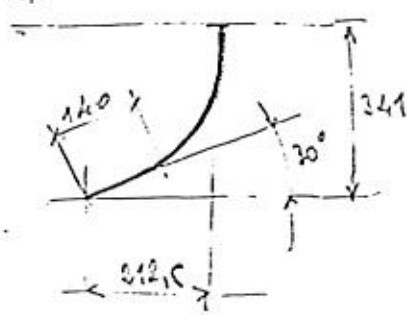
(Aluminum / glass)



22/C/20

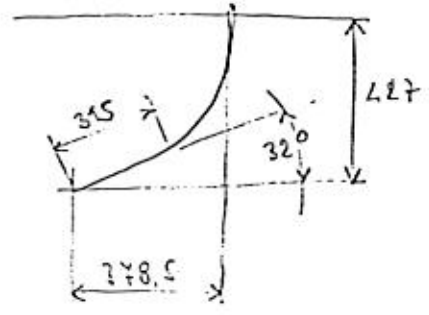
Emhart :

523-23 Cir 16 (3 1/2) (glass) (with 3" cut)
R 32.5



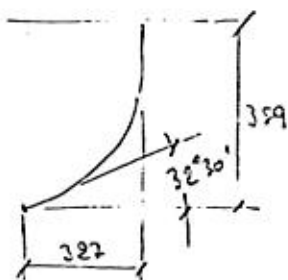
Emhart :

523-5138/6 (4) (glass) (5" cut)
R 28



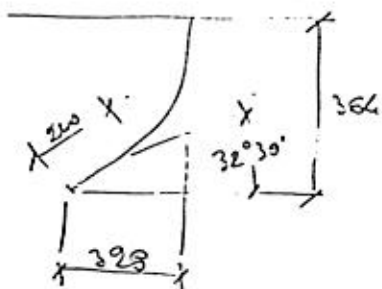
55-23-22 0.1 sup
drawing

BOTERO



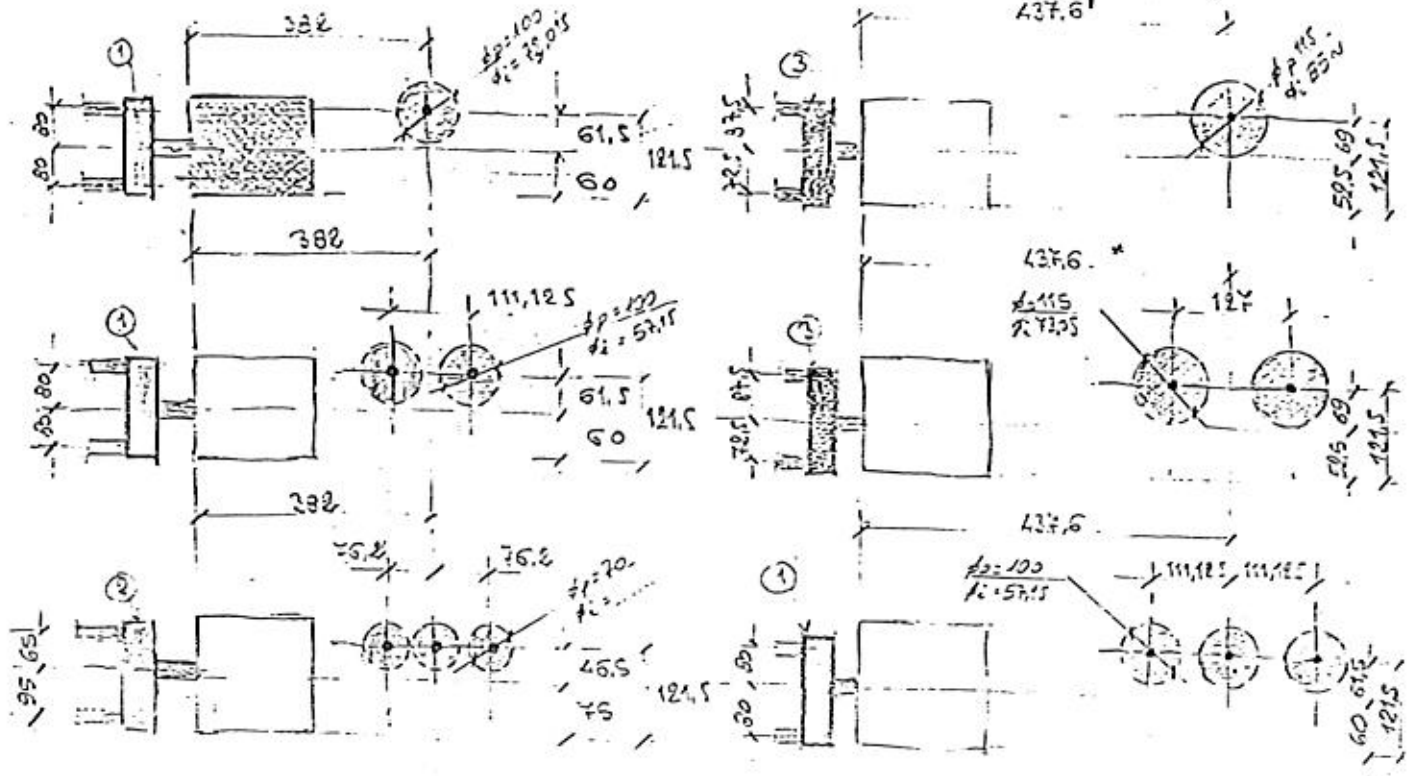
[Signature]

55-23-22 3-4 54 BOTERO 84
25 2



4 3/8"

14/5/90
5" *[Signature]*



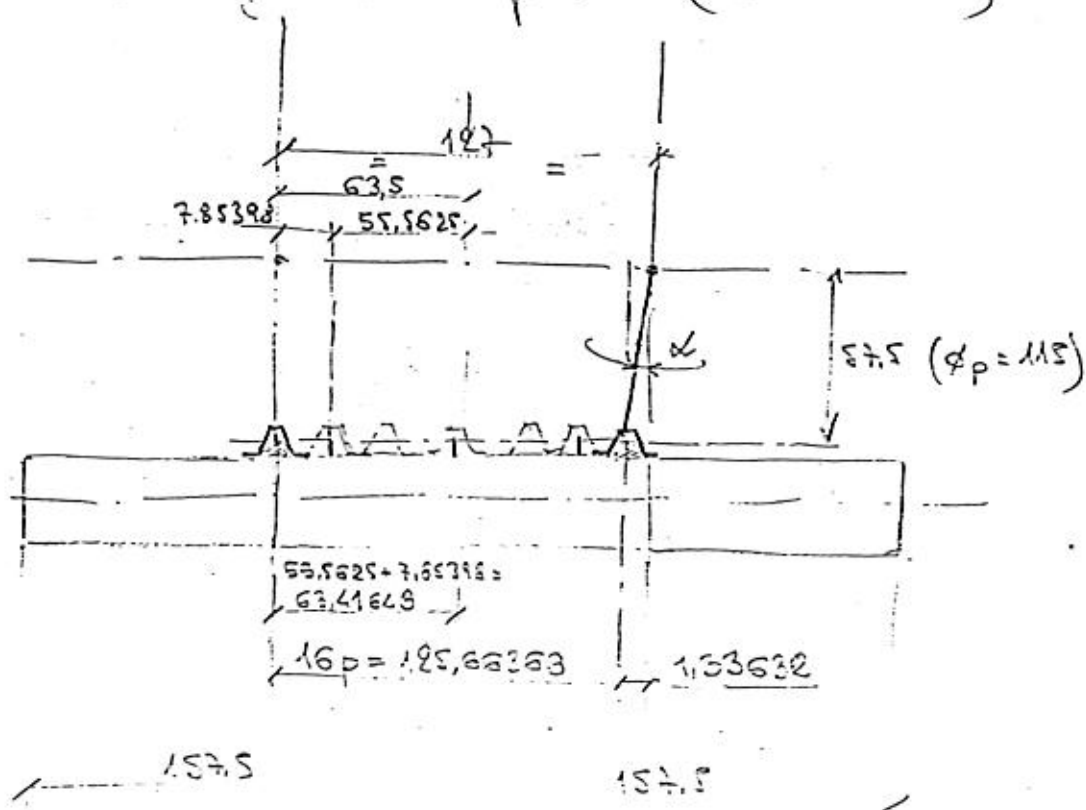
* minimo necessario = 192 + 24 = 216

Calcolo statico:

- | | |
|--|--|
| <ul style="list-style-type: none"> - 1) Stessa config. nel 2° e 3° - 2) Caricamento part. da 1 a 2 per pastore in TG 2°-3° - 3) Carico del servo-aria sulla stessa area, ma con fori di attacco spostati di 111,125 (tra 4 3/8" DG e 5" DG equiv. per 4 3/8" TG) - 4) SG e DG con carica centrata - 5) TG con spinta centrata | <ul style="list-style-type: none"> - 1) Stessa config. nel 2° e 3° - 2) Caricamento part. da 30.1 con carico in TG 4 3/8" + 4 3/8" - 4) SG e DG con carica dissimile - 5) TG con spinta centrata |
|--|--|

24/5/90

Calcolo angolo di correzione
 scop inferiore per compensazione
 cremagliere metrica 295-5-2
 ed inferiore in pollici ($\Sigma = 127 \text{ mm}$)



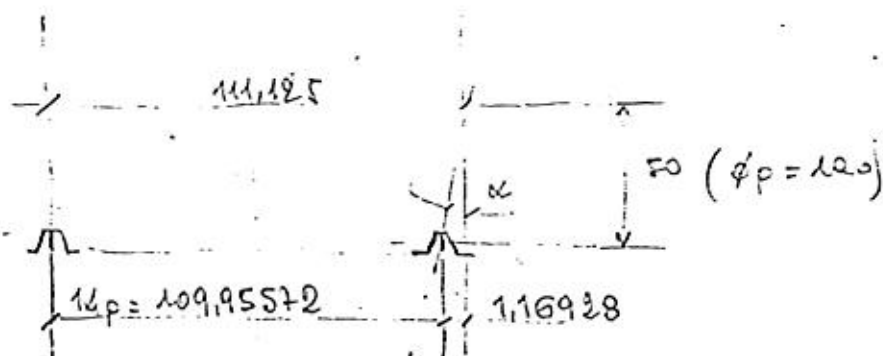
$$p = 7.85398 \text{ mm}$$

$$\alpha = 1.331334169^\circ$$

$$57.5 \frac{1}{\phi_p} = \frac{1.33632}{57.5} = 0.0232403278$$

$$1.33632$$

confronto con $\tan L^2/3$



$$p = 7.85398 \text{ mm}$$

$$\alpha = 1.339652^\circ$$

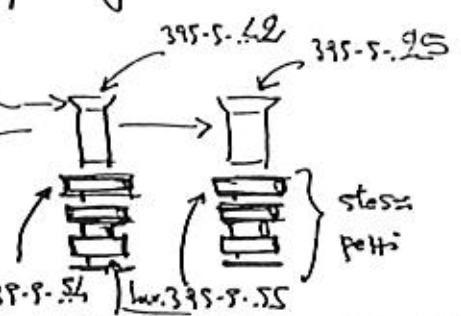
$$57.5 \frac{1}{\phi_p} = \frac{1.16928}{57.5} = 0.02033856$$

$$1.16928$$

16/6/90

Rotazione richiesta da VERDINE.

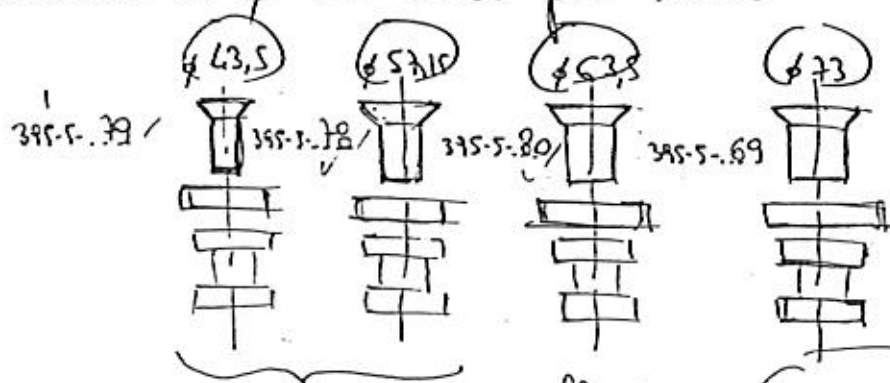
- Dg 4 7/8" ϕ 43,5 e 57,15



- " 5" ϕ 43,5, 57,15, 63, 73

Upper 395-S-54 / Lower 395-S-55
 395-S-38 Spine 395-S-83
 Guarnizione 395-S-5 / OR PG8502442

prevedere il ϕ 73 solo per noi.



Upper	Flange 395-S-73 ✓	Upper	Flange 395-S-82 ✓
Lower	395-S-42 ✓	Lower	395-S-81 ✓
Distanziatore 395-S-38 ϕ 57,5		Distanziatore 395-S-84 ϕ 63	

non si conosce le quote di attacco scarp

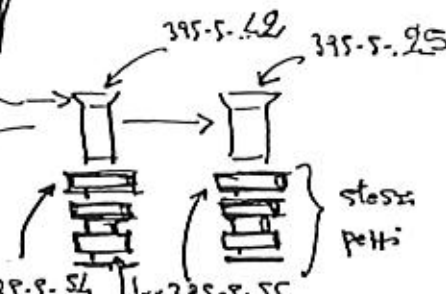
le flange possono avere lo stesso profilo esterno

Guarnizione 395-S-51	Guarnizione 395-S-85
Spine 395-S-83	Spine 395-S-83
OR PG8502452	OR PG8502452

16/6/20

Dotazione richiesta da VERDINE.

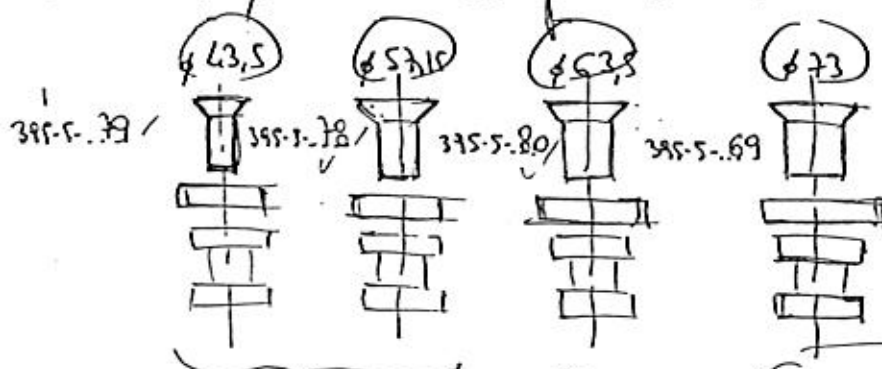
- DE 4 7/8" ϕ 43,5 e 57,15



- 5" ϕ 43,5, 57,15, 63, 73

Upper 395-S-38 Lower 395-S-33
 Spine 395-S-83
 Funzione 395-S-5
 OR PG 8502442

prevedere il ϕ 73 solo per mai.



Upper	Flange	395-S-73 ✓	Upper	Flange	395-S-82 ✓
Lower	Flange	395-S-42 ✓	Lower	Flange	395-S-81 ✓
Distanciale		395-S-38 ϕ 57,15	Distanciale		395-S-85 ϕ 63 ✓

non si conosce la quota di attacco scap

le flange possono avere lo stesso profilo esterno

Funzione	395-S-51	Funzione	395-S-85 ✓
Spine	395-S-83	Spine	395-S-83
OR	PG 8502452	OR	PG 8502452

Distributori elettronici VERDONS:

W

D.G. 4-3/8"

- Inibuto ϕ 1-11/16"	ref. 395-S-42	q ^{ta}	2
- Quonizione	" " 51	"	2
- " OR	" PG 8502442	"	4

AP

{ Inibuto ϕ 2-1/4" già in dotazione

D.G. 5"

- Inibuto ϕ 1-11/16"	ref. 395-S-79	q ^{ta}	2
- Quonizione	" " 81	"	2
- " OR	" PG 8502452	"	4

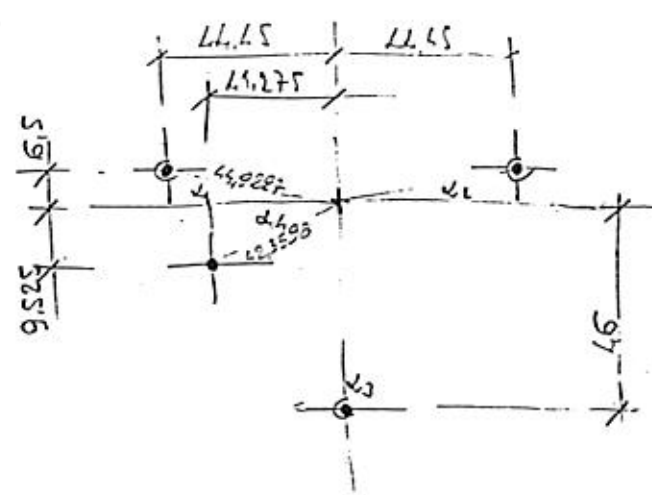
{ Inibuto ϕ 2-1/4" già in dotazione

- Inibuto ϕ 2-1/2"	" 395-S-80	"	2
- Quonizione	" " 85	"	2
- " OR	" PG 8502452	"	4
- Flangia	" 395-S-81	"	1
- "	" " 82	"	1
- Spina	" " 83	"	3
- Distorsione	" " 84	"	1

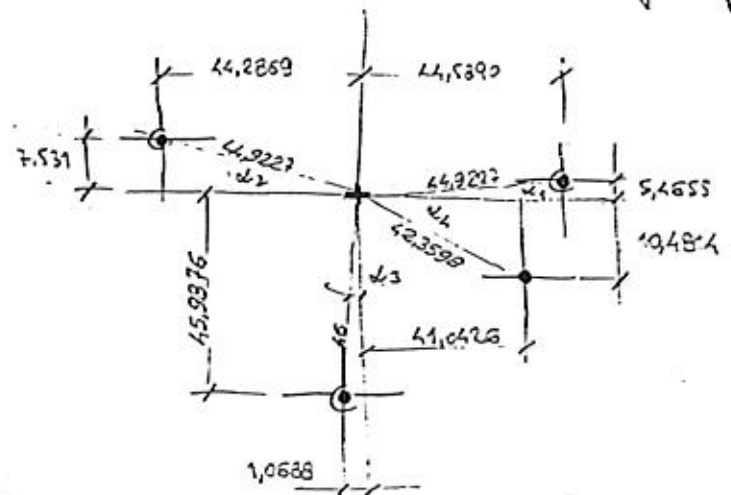
22/6/90

Posit. Pon 295-S-71 (5° - φ 57,5

Scopo 523-5215



VISTA DA SOPRA



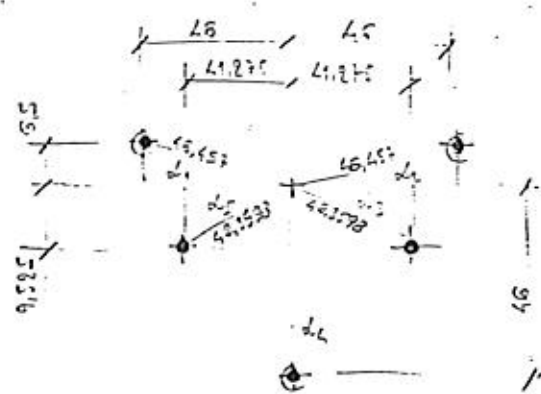
VISTA DA SOTTO

$d_1 = 8,3195^\circ$	$- 1,331334189 = 6,9882^\circ$
$d_2 = "$	$+ " = 9,6508^\circ$
$d_3 = 90^\circ$	$\times " = 1,331334189^\circ$
$d_4 = 12,9945^\circ$	$+ " = 14,3259^\circ$

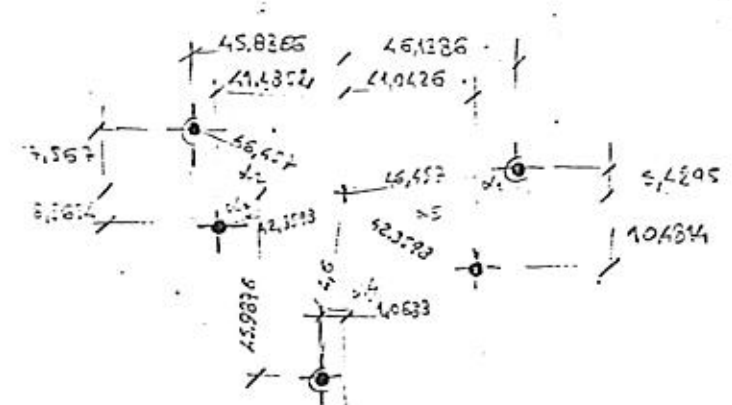
NR: non vale la pena cambiare la quota rispetto al 200.000

Posit. Pon 295-S-82 (5° - φ 63,5

Scopo 523-5215 (2/2)



VISTA DA SOPRA



VISTA DA SOTTO

$d_1 = 8,0429^\circ$	$- 1,331334189 = 6,7116^\circ$
$d_2 = "$	$+ " = 9,3742^\circ$
$d_3 = 12,9945^\circ$	$- " = 11,6633^\circ$
$d_4 = 90^\circ$	$\times " = 1,331334189^\circ$
$d_5 = 12,9945^\circ$	$+ " = 14,3259^\circ$

$$2/7/20$$

POSITION SCOPES THEORIES

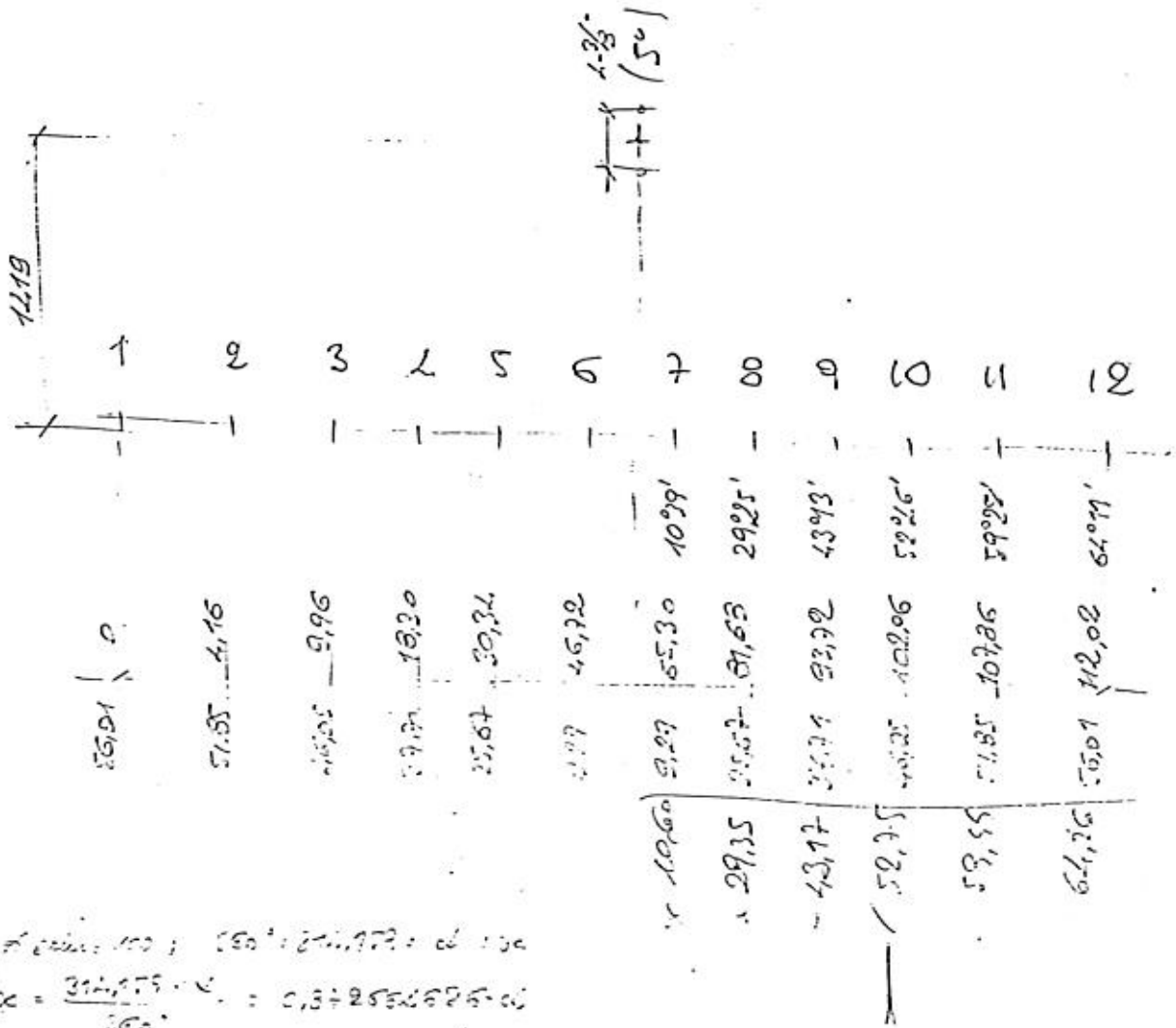
	$[I_{\text{mm}}]$	$[I_{\text{rev}}]$	Section	$[\Delta \text{mm}]$
	0		1	-59.5
3.5	{	3.5, 373	2	-55
5.5		9, 960	3	-50.5
	{	17, 1812	4	-42.5
		29.5, 2147	5	-30
	{	48.5, 5173	6	-11
		70.5, 4520	7	+11
	{	89.5, 9546	8	+30
		102, 16380	9	+42.5
8	{	110, 41732	10	+50.5
5.5		115.5, 42320	11	+56
3.5	{		12	+59.5
		119, 12693		

$$P = 30/16 \cdot 25 = 46.875 \text{ mm} \text{ rad/s}$$

Training error										Test results				
1	2	3	4	5	6	7	8	9	10	60%	60%	1/2	1/2	1/2
11	12	13	14	15	16	17	18	19	20	65%	65%	1/2	1/2	1/2
21	22	23	24	25	26	27	28	29	30	70%	70%	1/2	1/2	1/2
31	32	33	34	35	36	37	38	39	40	75%	75%	1/2	1/2	1/2
41	42	43	44	45	46	47	48	49	50	80%	80%	1/2	1/2	1/2
51	52	53	54	55	56	57	58	59	60	85%	85%	1/2	1/2	1/2
61	62	63	64	65	66	67	68	69	70	90%	90%	1/2	1/2	1/2
71	72	73	74	75	76	77	78	79	80	95%	95%	1/2	1/2	1/2
81	82	83	84	85	86	87	88	89	90	100%	100%	1/2	1/2	1/2

Ex: une cascade de pontons en écoulement $\dot{Q} = 490 \text{ g/s} = 49000 \text{ kg/s}$
 la chute moyenne de l'eau = 126 g/s
 donc, il reste au large p.t le moulin (270 g/s)

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**BOTTERO**S.p.A. Via Genova, 82
12100 CUNEO
(Italy)Telefax (171) 401641
Telex 220076 BOTTCN
Phone (171) 401612/402644

TO VERDONE	Fax No. 0033-73-816099
Attn. Mr. D'ARJOIS	Yr Ref.
From Tec. Dept. / Mr. GIRAUD V.	Our Ref.
Message No. 01901020 UTC	Date 20/10/90
No. of pages 2	

OBJECT: SERVO GAB DISTRIBUTOR

WITH REFERENCE TO YOUR PHONE OF THE 18/10/90,
WE SEND YOU A SKETCH USEFUL TO OBTAIN
THE THEORETICAL POSITION OF THE RACK,
CORRESPONDING TO EVERY SECTION.

FOR SIMPLICITY I PUT SECTION 1 = ϕ mm

AND THEN :

- 4-3/8" Feeder

SECTION 12 = 112,02 mm

- 5" Feeder

SECTION 12 = 128,52 mm

AT YOUR DISPOSAL FOR ALL INFORMATION
WE REMAIN.

GIRAUD VITORE

TECHN. DEPT.

2/2
20/10/2001
[Signature]

4 3/8" Feeder

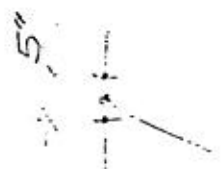
Rack stroke 0 mm	Scoop angle
4,16	1
9,95	2
18,80	3
29,34	4
46,72	5
65,30	6
81,63	7
93,72	8
122,06	9
107,96	10
112,02	11
62,91	12



14,19

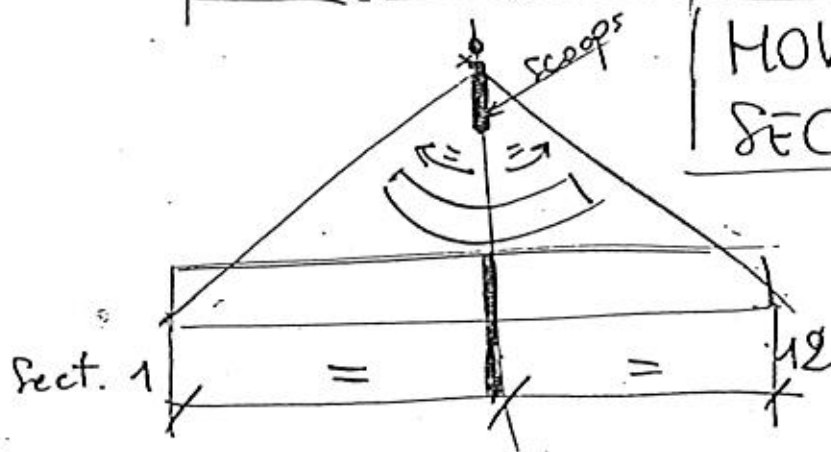
5" Feeder

Rack stroke 0 mm	Scoop angle
4,82	1
11,51	2
21,09	3
35,11	4
53,92	5
74,86	6
93,61	7
104,43	8
117,01	9
123,70	10
128,52	11
64,02	12



14,28,8

25/3/81 SV
3/3



- 1) PUT SCOOPS ON THE CENTER MACHINE
- 2) MOVE SCOOPS OF 8117 VALUE TO REACH $S \approx 0.1$ } 5" feeder
- 3) " " " 16234 " " " " 12" }
- 2a) " " " 7075 " " " " 1" } 4 3/8" feeder
- 3a) " " " 14150 " " " " 12" }

Encoder value	Rack stroke	Scrap angle
0	0 mm	
609	4.82	
1154	11.51	
2664	21.09	
4135	35.11	
5311	53.92	
9156	74.86	103.4
11824	93.61	99.15
13570	107.43	43.91
14780	117.01	52.24
15625	123.70	59.74
16234	128.52	64.02

1498.8

Encoder value	Rack stroke	Scrap angle
0	0 mm	
525	4.16	
1258	9.96	
2312	18.30	
3832	29.34	
5901	46.72	
8248	65.30	103.9
10317	81.63	99.25
11838	93.72	43.93
12892	102.06	52.46
13624	107.96	59.25
14150	112.02	61.94

1479

4 3/8" Feeder

4 3/8"

20/10/2021
25/3/21 SN

Handwritten signatures and initials.

**BOTTERO**S.p.A. Via Genova, 82
12100 CUNEO
(Italy)Telefax (171) 401611
Telex 220076 BOTTERO
Phone (171) 401612/402644

TO VERDINE	Fax No. 0033-73-816099
Attn. Mr. D'ARNOIS	Yr Ref.
From Tec. Dept. / Mr. GIRAUDO V.	Our Ref.
Message No. 019010325 UTV C	Date 20/10/90
	No. of pages 2/3

01910325 UTV C 25/3/91
 OBJECT: SERVO GOR DISTRIBUTOR

25/3/91
 WITH REFERENCE TO YOUR PHONE OF THE 10/10/90,
 WE SEND YOU A SKETCH USEFUL TO OBTAIN
 THE THEORETICAL POSITION OF THE RACK,
 CORRESPONDING TO EVERY SECTION.

FOR SIMPLICITY I PUT SECTION 1 = ϕ mm
 AND THEN :

- 4-3/8" Feeder

SECTION 12 = 112,02 mm

- 5" Feeder

SECTION 12 = 128,52 mm

AT YOUR DISPOSAL FOR ALL INFORMATION
 WE REMAIN.

GIRAUDO VITORE

TECHN. DEPT.

Handwritten signature or initials.

- Formule varie : Velocità - n° di giri - Momento torcente
Potenza [cv]
- Capacità di carico e di momento torcente delle
varie sezioni di alberi (Torsione e taglio)
- Tabelle di conversione delle temperature
- " " " " durezza
- " " " " unità di misura