

case A

		level		
control factors		1	2	3
A	Cylinder temperature (°C)	175	200	
B	Injection speed(sec)	15	20	25
C	VP change position (mm)	6	6.25	6.5
D	Holding pressure(kgf)	10	13	15
E	Holding time (sec)	1.5	2	2.5
F	Cooling time(sec)	20	25	30
G	Back pressure (kgf)	5	10	15
H	Screw rotation speed(%)	20	25	30

narrow range

case B

		level		
control factors		1	2	3
A	Cylinder temperature (°C)	175	200	
B	Injection speed(sec)	15	20	25
C	VP change position (mm)	6	9	12
D	Holding pressure(kgf)	5	10	15
E	Holding time (sec)	1.5	2	2.5
F	Cooling time(sec)	20	25	30
G	Back pressure (kgf)	5	10	15
H	Screw rotation speed(%)	20	25	30

wide range

		level		
signal factor	die size	M1	M2	M3
		1	3	5
noise factor	resin	N1	N2	
		PMA	PMB	

case A

expt No.	control factor								SN ratio
	A	B	C	D	E	F	G	H	(db) Min
1	1	1	1	1	1	1	1	1	36.1
2	1	1	2	2	2	2	2	2	55.1
3	1	1	3	3	3	3	3	3	58.7
4	1	2	1	1	2	2	3	3	54.8
5	1	2	2	2	3	3	1	1	55.3
6	1	2	3	3	1	1	2	2	57.6
7	1	3	1	2	1	3	2	3	56.6
8	1	3	2	3	2	1	3	1	61.5
9	1	3	3	1	3	2	1	2	40.6 Max
10	2	1	1	3	3	2	2	1	62.0
11	2	1	2	1	1	3	3	2	58.9
12	2	1	3	2	2	1	1	3	58.1
13	2	2	1	2	3	1	3	2	59.5
14	2	2	2	3	1	2	1	3	56.2
15	2	2	3	1	2	3	2	1	57.8
16	2	3	1	3	2	3	1	2	59.1
17	2	3	2	1	3	1	2	3	58.8
18	2	3	3	2	1	2	3	1	60.7

$$62.0 - 36.1 = 25.9$$

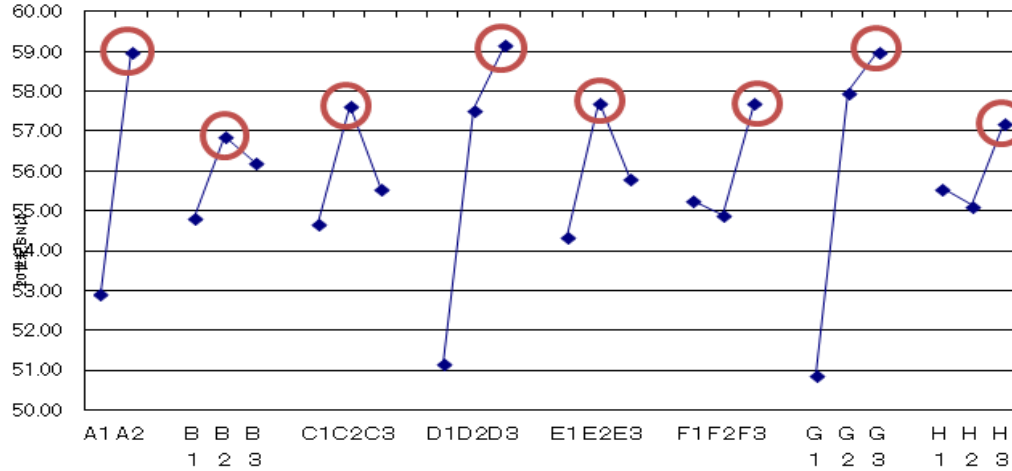
case B

exptNo.	control factor								SN ratio
	A	B	C	D	E	F	G	H	(db)
1	1	1	1	1	1	1	1	1	34.9
2	1	1	2	2	2	2	2	2	31.1
3	1	1	3	3	3	3	3	3	54.8
4	1	2	1	1	2	2	3	3	52.6
5	1	2	2	2	3	3	1	1	19.4
6	1	2	3	3	1	1	2	2	40.9 Max
7	1	3	1	2	1	3	2	3	56.2
8	1	3	2	3	2	1	3	1	42.3 Min
9	1	3	3	1	3	2	1	2	15.1
10	2	1	1	3	3	2	2	1	49.3
11	2	1	2	1	1	3	3	2	53.9
12	2	1	3	2	2	1	1	3	44.4
13	2	2	1	2	3	1	3	2	49.4
14	2	2	2	3	1	2	1	3	52.7
15	2	2	3	1	2	3	2	1	53.3
16	2	3	1	3	2	3	1	2	55.6
17	2	3	2	1	3	1	2	3	32.1
18	2	3	3	2	1	2	3	1	55.0

$$56.2 - 15.1 = 41.1$$

case A

SN ratio



gain of SN ratio (estimated value)

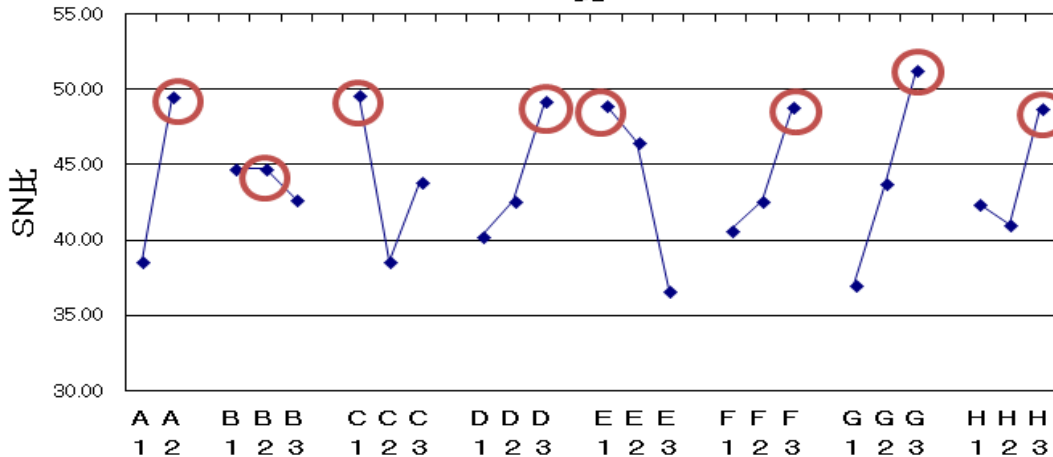
Optimal	worst	gain
72.615	37.126	35.5

gain of SN ratio (confirmed value)

Optimal	worst	gain
53.828	49.960	3.9

case B

SN ratio



gain of SN ratio (estimated value)

Optimal	worst	gain
82.731	7.166	75.6

gain of SN ratio (confirmed value)

Optimal	worst	gain
39.812	17.260	22.6