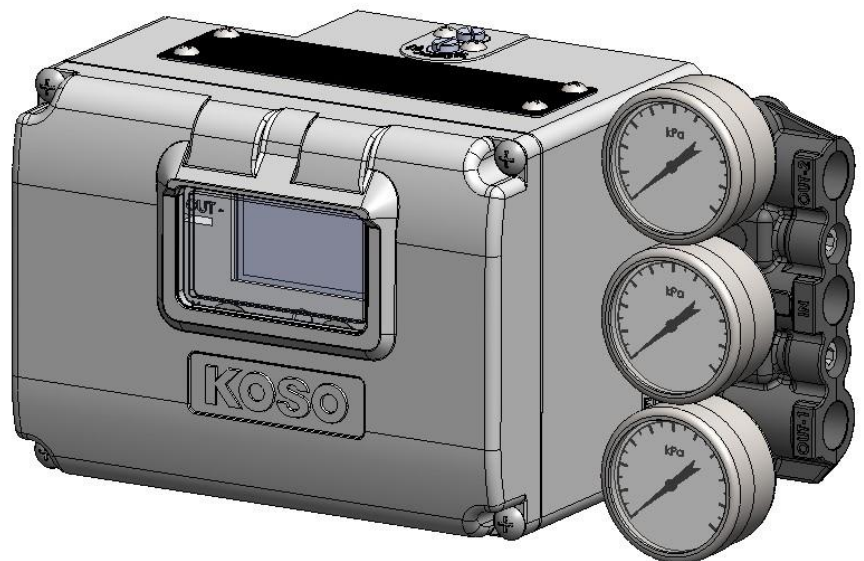


KGP5000/2000 series

Smart valve positioner

# Instruction Manual Annex 1

## PID Parameter tables



# Annex 1. PID Parameter Tables

## 1 Software Version and PID Parameter Tables

The suitable PID parameter table is varies depending on the software version and setting of Booster option.

Table 1 Software Version & PID Parameter Table

KGP5000 Software Version	KGP2000 Software Version	Booster option Disable ※1 PID Parameter Table	Booster option Enable ※1 PID Parameter Table
Up to 0.4.7	N/A	Table 2-1 Linear & Single Table 2-2 Linear & Double Table 2-3 Rotary & Single Table 2-4 Rotary & Double Table 2-5 5300LA series	N/A
0.4.8~0.6.1	N/A	Table 3-1 Linear & Single Table 3-2 Linear & Double Table 3-3 Rotary & Single Table 3-4 Rotary & Double Table 3-5 5300LA series	N/A
1.0.0 or later	1.0.0 or later	Table 4-1 Linear & Single Table 4-2 Linear & Double Table 4-3 Rotary & Single Table 4-4 Rotary & Double Table 4-5 5300LA series	Table 5-1 Linear & Single Table 5-2 Linear & Double Table 5-3 Rotary & Single Table 5-4 Rotary & Double Table 5-5 5300LA series

※1. For Booster option, please refer to Instruction Manual 4.3.1 chapter.

## 2 PID Parameter Tables in the case of Without Booster

(UP to KGP5000 Software 0.4.7)

Table 2-1 Linear & Single

Rank	Packing	Air-IN			Air-OUT			b	Inner Air-IN			Inner Air-OUT		
		P	I	D	rP	rI	rD		P	I	D	rP	rI	rD
XS	Low	0.6	30	1.1	0.9	30	1.3	10	1.4	3.0	3.0	4.0	3.0	1.3
	High	0.7	30	1.2	0.9	30	1.2	10	1.8	3.0	3.0	3.6	3.0	1.4
SS	Low	0.7	30	1.3	0.9	30	1.6	10	2.1	3.0	3.7	3.9	3.0	2.6
	High	1.3	30	2.2	1.5	30	2.4	10	2.6	3.0	4.1	4.2	3.0	2.5
S	Low	0.7	30	1.5	0.9	30	1.8	10	2.8	3.0	4.3	3.8	3.0	3.8
	High	1.8	30	3.1	2.0	30	3.5	10	3.4	3.0	5.3	4.8	3.0	3.5
M	Low	1.5	30	4.0	1.9	30	5.0	10	4.7	3.0	6.5	5.2	3.0	5.0
	High	2.5	30	4.0	2.8	30	5.0	10	4.7	3.0	6.5	5.2	3.0	5.0
L	Low	2.0	30	5.0	2.2	30	6.0	10	6.0	3.0	7.0	7.0	3.0	6.0
	High	3.6	30	6.5	4.0	30	8.0	10	5.2	3.0	8.5	5.6	3.0	8.0
LL	Low	2.8	30	6.5	3.1	30	8.0	10	8.0	3.0	9.0	9.0	3.0	8.5
	High	5.1	30	8.5	5.6	30	9.0	10	6.8	3.0	9.0	7.2	3.0	8.5
XL	Low	8.0	30	19.2	8.2	30	23.6	10	20.0	3.0	21.8	22.0	3.0	22.6
	High	21.0	30	35.4	23.0	30	40.0	10	17.0	1.0	22.6	14.0	1.0	25.4

Table 2-2 Linear & Double

Rank	Packing	Air-IN			Air-OUT			b	Inner Air-IN			Inner Air-OUT		
		P	I	D	rP	rI	rD		P	I	D	rP	rI	rD
XS	Low	1.2	30	2.0	1.3	30	2.2	10	1.4	3.0	2.2	1.5	3.0	2.4
	High	1.3	30	2.2	1.4	30	2.7	10	2.0	3.0	3.5	2.1	3.0	3.7
SS	Low	1.3	30	2.5	1.5	30	2.6	10	2.0	3.0	3.5	2.1	3.0	3.5
	High	1.5	30	2.8	1.5	30	3.0	10	3.4	3.0	4.3	3.5	3.0	4.2
S	Low	1.5	30	3.4	1.8	30	3.4	10	3.8	3.0	5.0	5.0	3.0	4.6
	High	1.9	30	3.4	1.8	30	3.4	10	4.8	3.0	5.0	5.0	3.0	4.6
M	Low	2.8	30	6.5	2.8	30	6.5	10	6.0	3.0	7.5	6.0	3.0	7.5
	High	3.0	30	7.0	2.8	30	6.5	10	6.0	3.0	7.5	6.0	3.0	7.5
L	Low	21.0	30	30.0	13.0	30	39.5	10	38.0	1.0	34.0	36.0	1.0	46.4
	High	8.0	30	20.0	6.6	30	20.0	10	15.0	1.0	20.0	15.0	1.0	20.0
LL	Low	23.0	30	48.0	14.0	30	55.0	10	45.0	1.0	51.0	38.0	1.0	60.0
	High	16.0	30	42.0	13.0	30	33.0	10	28.0	1.0	42.0	28.0	1.0	42.0
XL	Low	28.0	30	96.0	17.0	30	96.0	10	64.0	1.0	96.0	43.0	1.0	96.0
	High	39.0	30	96.0	13.0	30	67.0	10	84.0	1.0	96.0	15.0	1.0	67.0

Table 2-3 Rotary & Single

Rank	Packing	Air-IN			Air-OUT			b	Inner Air-IN			Inner Air-OUT		
		P	I	D	rP	rI	rD		P	I	D	rP	rI	rD
XS	Low	0.8	5	1.3	1.3	5	0.8	5	2.7	1.0	2.8	3.2	1.0	1.8
	High	1.0	5	1.6	1.0	5	1.8	10	3.3	1.0	6.0	2.8	1.0	4.5
SS	Low	0.8	30	1.8	1.2	30	1.6	10	1.8	3.0	3.0	3.2	3.0	2.9
	High	1.0	30	1.3	1.5	30	2.0	10	3.0	3.0	5.2	5.6	3.0	1.6
S	Low	0.8	30	1.8	2.3	30	3.2	10	1.7	3.0	4.4	5.0	3.0	3.8
	High	1.8	30	2.2	2.1	30	3.2	10	4.0	3.0	5.2	5.3	3.0	4.1
M	Low	1.2	30	3.5	2.5	30	4.8	10	3.0	3.0	8.0	7.5	3.0	7.2
	High	2.2	30	5.4	2.9	30	5.4	10	5.7	3.0	6.1	8.1	3.0	5.4
L	Low	3.3	30	6.8	2.8	30	7.0	10	9.0	3.0	8.0	9.0	3.0	8.0
	High	3.2	30	7.4	4.0	30	8.6	10	7.3	3.0	14.7	12.5	3.0	18.0
LL	Low	6.0	30	15.0	5.1	30	14.0	10	14.4	3.0	20.4	13.4	3.0	22.2
	High	6.0	30	17.0	7.0	30	21.0	10	14.0	3.0	33.0	21.0	3.0	46.0
XL	Low	6.5	30	23.3	8.0	30	23.8	10	36.0	1.5	51.0	22.0	1.5	49.0
	High	10.5	30	42.0	19.0	30	52.0	10	26.0	1.0	60.6	28.0	1.0	40.0

Table 2-4 Rotary & Double

Rank	Packing	Air-IN			Air-OUT			b	Inner Air-IN			Inner Air-OUT		
		P	I	D	rP	rI	rD		P	I	D	rP	rI	rD
XS	Low	1.0	30	1.4	1.0	30	1.4	10	2.6	3.0	2.8	2.8	3.0	2.8
	High	1.2	30	1.9	1.0	30	2.2	10	2.7	3.0	5.0	2.8	3.0	5.2
SS	Low	1.7	30	2.2	1.2	30	2.5	10	4.0	3.0	3.1	2.2	3.0	3.5
	High	1.9	30	2.2	1.7	30	2.5	10	4.5	3.0	2.6	4.5	3.0	3.5
S	Low	2.2	30	3.1	2.0	30	3.2	10	6.0	3.0	4.2	4.2	3.0	5.6
	High	2.5	30	3.4	2.2	30	3.2	10	7.0	3.0	3.0	5.0	3.0	4.5
M	Low	3.5	30	6.0	4.0	30	6.4	10	9.0	3.0	8.5	6.5	3.0	9.6
	High	4.2	30	7.0	4.0	30	7.0	10	10.0	3.0	9.0	7.0	3.0	10.0
L	Low	4.7	30	9.5	5.4	30	8.2	10	10.0	3.0	10.3	7.7	3.0	12.6
	High	4.9	30	10.1	5.7	30	10.1	10	10.6	3.0	14.6	9.4	3.0	13.5
LL	Low	9.4	30	20.0	12.0	30	22.5	10	18.0	3.0	27.8	16.0	3.0	26.5
	High	9.5	30	23.0	12.5	30	23.0	10	18.0	3.0	36.0	18.0	3.0	30.0
XL	Low	28.0	30	51.3	38.0	30	53.2	10	54.0	1.5	65.0	46.0	1.5	81.2
	High	36.0	30	94.0	38.0	30	71.7	10	38.0	1.5	93.4	38.0	1.5	93.4

Table 2-5 5300LA series

Rank	Packing	Air-IN			Air-OUT			b	Inner Air-IN			Inner Air-OUT		
		P	I	D	rP	rI	rD		P	I	D	rP	rI	rD
SS	Low	0.9	30	2.4	2.8	30	3.0	10	1.8	1.5	7.0	6.0	1.5	8.0
	High	1.4	30	2.5	2.7	30	3.0	10	2.5	2.0	7.0	5.0	2.0	10.0
S	Low	1.3	30	3.4	3.8	30	5.0	10	3.0	3.0	9.0	9.0	3.0	8.0
	High	1.7	30	4.4	4.2	30	5.5	10	3.3	3.0	10.2	9.9	3.0	10.0
M	Low	4.8	30	6.7	4.5	30	8.0	10	9.5	1.0	14.0	11.7	1.0	9.6
	High	5.0	30	7	4.7	30	8.6	10	10.0	1.0	15.5	12.0	1.0	10.0
L	Low	5.7	30	19	8	30	17.0	10	13.0	1.0	20.0	18.0	1.0	20.0
	High	6.2	30	20	7.2	30	22.0	10	15.0	1.0	28.0	22.0	1.0	29.0
LL	Low	7.7	30	30	11	30	25.0	10	18.0	1.0	26.0	25.0	1.0	29.0
	High	8.5	30	40	9.5	30	38.0	10	25.0	1.0	56.0	35.0	1.0	46.0

### 3 PID Parameter Tables in the case of Without Booster

(KGP5000 Software 0.4.8 ~ 0.6.1)

Table 3-1 Linear & Single

Rank	Packing	Air-IN			Air-OUT			b	Inner Air-IN			Inner Air-OUT		
		P	I	D	rP	rI	rD		P	I	D	rP	rI	rD
XS	Low	0.5	5	1.0	0.8	5	0.9	10	1.4	2.0	2.4	3.0	2.0	1.4
	High	0.6	5	1.0	1.0	5	1.2	10	1.7	2.0	1.9	3.5	2.0	2.0
SS	Low	0.7	5	1.8	1.2	5	1.7	10	1.5	2.0	3.7	3.5	2.0	2.7
	High	0.8	5	1.3	1.1	5	1.5	10	1.7	2.0	2.5	3.3	2.0	2.0
S	Low	0.9	5	2.5	1.5	5	2.5	10	1.6	2.0	5.0	4.0	2.0	4.0
	High	1.0	5	1.6	1.2	5	1.7	10	1.7	2.0	3.0	3.0	2.0	2.0
M	Low	1.6	5	2.7	1.8	5	3.0	10	3.0	1.5	6.0	5.8	1.5	5.0
	High	1.6	5	3.5	1.8	5	2.6	10	3.8	1.5	7.0	4.0	1.5	5.0
L	Low	3.2	5	8.0	3.3	5	5.4	10	5.0	1.5	9.5	7.5	1.5	7.6
	High	4.0	5	8.5	5.2	5	8.8	10	4.9	1.0	17.0	6.5	1.0	11.0
LL	Low	3.0	5	9.0	3.2	5	5.8	10	7.2	1.0	12.5	6.0	1.0	9.5
	High	5.0	5	10.5	6.5	5	11.2	10	5.5	1.0	21.0	6.0	1.0	16.0
XL	Low	8.0	5	25.0	7.0	5	15.0	10	13.8	1.0	32.0	12.6	1.0	27.0
	High	7.0	5	26.0	6.0	5	17.0	10	16.0	1.5	34.0	14.0	1.5	31.0

Table 3-2 Linear & Double

Rank	Packing	Air-IN			Air-OUT			b	Inner Air-IN			Inner Air-OUT		
		P	I	D	rP	rI	rD		P	I	D	rP	rI	rD
XS	Low	0.6	8	1.1	0.7	8	1.2	10	2.0	2.5	1.8	2	2.5	1.5
	High	0.8	3	1.7	0.9	3	1.5	10	3.5	2.0	2.3	4.5	2.0	1.0
SS	Low	0.7	8	1.4	1.1	8	1.9	10	2.1	2.5	0.8	2.2	2.5	3.0
	High	1.1	3	1.9	1.5	3	1.6	10	3.2	2.0	1.9	4.3	2.0	3.3
S	Low	1.0	5	2.0	1.1	5	1.8	10	3.0	2.5	3.2	3.2	2.5	3.2
	High	1.1	5	2.2	1.4	5	2.2	10	5.0	2.5	4.0	6.0	2.5	3.0
M	Low	4.1	5	8.6	4.5	5	8.0	10	5.2	2.0	10.3	4.5	2.0	15.2
	High	4.8	5	9.2	4.2	5	6.0	10	4.8	2.0	12.0	4.5	2.0	16.5
L	Low	10.8	5	22.1	12.3	5	21.2	10	11.8	2.0	26.1	13.0	2.0	26.2
	High	11.4	5	23.2	13.2	5	21.7	10	12.8	2.0	27.8	15.0	2.0	27.2
LL	Low	17.0	5	34.6	21.0	5	36.0	10	17.0	1.0	34.6	21.0	1.0	36.0
	High	17.0	5	34.6	23.0	5	36.0	10	17.0	1.0	34.6	23.0	1.0	36.0
XL	Low	37.0	5	76.0	40.5	5	70.0	10	37.0	1.0	95.0	40.5	1.0	88.0
	High	37.0	5	76.0	40.5	5	70.0	10	37.0	1.0	95.0	40.5	1.0	88.0

Table 3-3 Rotary & Single

Rank	Packing	Air-IN			Air-OUT			b	Inner Air-IN			Inner Air-OUT		
		P	I	D	rP	rI	rD		P	I	D	rP	rI	rD
XS	Low	0.4	5	0.5	0.6	5	0.8	10	1.7	2.0	3.0	3.8	2.0	1.6
	High	0.6	5	0.8	0.6	5	0.5	10	1.0	1.5	1.8	3	1.5	1.8
SS	Low	0.3	10	1.3	0.7	10	1.1	10	0.7	2.5	2.8	2.8	2.5	1.8
	High	0.4	10	1.5	0.8	10	1.0	10	0.5	2.5	2.0	3.2	2.5	2.0
S	Low	0.6	5	2.0	1.2	5	1.6	10	1.2	2.0	3.2	3.5	2.0	3.0
	High	0.8	5	1.5	1.3	5	1.6	10	1.4	1.5	4.0	4.4	1.5	4.2
M	Low	1.4	5	2.8	2.0	5	2.6	10	3.2	2.0	7.2	5.0	2.0	6.8
	High	1.4	5	2.8	2.0	5	2.6	10	3.2	2.0	7.2	4.5	2.0	6.5
L	Low	1.6	5	4.2	2.5	5	3.4	10	4.7	1.0	8.2	6.0	1.0	6.8
	High	1.5	5	3.5	2.3	5	2.5	10	5.0	1.5	12.0	7.5	1.5	9.0
LL	Low	3.4	5	10.5	4.6	5	10.5	10	6.8	0.7	18.0	12.0	1.5	18.0
	High	3.8	5	11.0	4.5	5	11.0	10	7.8	1.0	16.5	11.0	1.0	16.5
XL	Low	5.5	5	15.0	6.0	5	15.0	10	10.0	2.0	20.0	12.0	2.0	20.0
	High	7.0	5	15.0	8.0	5	15.0	10	14.0	2.0	18.0	15.0	2.0	20.0

Table 3-4 Rotary & Double

Rank	Packing	Air-IN			Air-OUT			b	Inner Air-IN			Inner Air-OUT		
		P	I	D	rP	rI	rD		P	I	D	rP	rI	rD
XS	Low	0.6	5	1.4	0.8	5	1.4	10	1.9	1.5	2.4	2.3	1.5	2.4
	High	0.8	5	1.2	0.9	5	1.2	10	2.2	1.5	1.9	2.7	1.5	1.9
SS	Low	0.7	5	1.1	0.8	5	1.2	10	2.9	1.0	4.0	3.0	1.0	4.0
	High	0.7	5	1.1	0.8	5	1.2	10	2.9	1.0	4.0	3.0	1.0	4.0
S	Low	1.0	5	2.0	1.3	5	2.5	10	3.6	1.0	4.4	4.0	1.0	4.4
	High	1.2	5	2.2	1.4	5	2.2	10	3.8	1.0	4.4	4.2	1.0	4.4
M	Low	2.1	5	4.0	2.3	5	3.5	10	4.8	1.0	7.0	6.5	1.0	7.5
	High	2.0	5	4.0	2.2	5	3.5	10	4.8	2.0	7.0	6.5	2.0	7.5
L	Low	2.5	5	5.0	3.2	5	5.4	10	5.0	1.5	9.0	5.4	1.5	10.0
	High	3.0	5	5.4	3.3	5	5.0	10	4.3	1.5	10.5	4.6	1.5	11.0
LL	Low	5.2	5	11.0	5.2	5	10.0	10	8.0	1.5	16.0	8.0	1.5	14.5
	High	5.0	5	10.0	5.5	5	9.0	10	5.9	1.5	15.0	6.5	1.5	13.5
XL	Low	15.0	5	32.0	15.0	5	29.0	10	20.0	2.5	44.0	20.0	2.5	41.0
	High	15.0	5	30.0	16.0	5	27.0	10	17.0	2.0	44.0	21.0	2.0	40.0

Table 3-5 5300LA series

Rank	Packing	Air-IN			Air-OUT			b	Inner Air-IN			Inner Air-OUT		
		P	I	D	rP	rI	rD		P	I	D	rP	rI	rD
SS	Low	0.7	5	1.2	1.3	5	1.6	10	1.0	1.5	3.0	3.8	1.5	2.5
	High	0.9	5	2.3	1.5	5	1.9	10	1.5	2.5	4.4	4.0	2.5	3.0
S	Low	1.4	5	3.2	2.2	5	3.2	10	3.4	1.0	6.1	4.5	1.0	4.9
	High	1.8	5	4.5	2.6	5	4.0	10	2.7	2.5	9.0	4.0	2.5	4.4
M	Low	3.2	5	8	3.3	5	4.9	10	5.0	1.5	10.3	6.4	1.5	7.1
	High	4.0	5	8	3.8	5	6.3	10	6.0	1.0	15.0	6.7	1.0	8.0
L	Low	6.3	5	13	5.4	5	7.5	10	7.0	1.0	16.5	11.0	1.0	16.3
	High	7.2	5	10.5	7.4	5	6.8	10	7.7	1.0	20.0	7.4	1.0	18.0
LL	Low	9.0	5	21.5	10	5	18.2	10	9.1	1.5	22.7	10.1	1.5	18.8
	High	13.8	5	23.7	12.8	5	14.0	10	15.6	1.0	38.1	14.4	1.0	27.4



## 4 PID Parameter Tables in the case of Booster option Disable

(KGP5000 Software 1.0.0 or later/KGP2000 Software 1.0.0 or later)

Table 4-1 Linear & Single

Rank	Packing	Air-IN			Air-OUT			b	Inside Air-IN			Inside Air-OUT		
		P	I	D	rP	rI	rD		P	I	D	rP	rI	rD
XS	Low	0.5	5.0	1.0	0.8	5.0	0.9	10	1.4	2.0	2.4	3.0	2.0	1.4
	High	0.6	5.0	1.0	1.0	5.0	1.2	10	1.7	2.0	1.9	3.5	2.0	2.0
SS	Low	0.7	5.0	1.8	1.2	5.0	1.7	10	1.5	2.0	3.7	3.5	2.0	2.7
	High	0.8	5.0	1.3	1.1	5.0	1.5	10	1.7	2.0	2.5	3.3	2.0	2.0
S	Low	0.9	5.0	2.5	1.5	5.0	2.5	10	1.6	2.0	5.0	4.0	2.0	4.0
	High	1.0	5.0	1.6	1.2	5.0	1.7	10	1.7	2.0	3.0	3.0	2.0	2.0
M	Low	1.6	5.0	2.7	1.8	5.0	3.0	10	3.0	1.5	6.0	5.8	1.5	5.0
	High	1.6	5.0	3.5	1.8	5.0	2.6	10	3.8	2.0	7.0	4.0	2.0	5.0
L	Low	3.2	5.0	8.0	3.3	5.0	5.4	10	5.0	1.5	9.5	7.5	1.5	7.6
	High	4.0	5.0	8.5	5.2	5.0	8.8	10	4.9	2.0	17.0	6.5	2.0	11.0
LL	Low	3.0	5.0	9.0	3.2	5.0	5.8	10	7.2	1.0	12.5	6.0	1.0	9.5
	High	5.0	5.0	10.5	6.5	5.0	11.2	10	5.5	2.0	21.0	6.0	2.0	16.0
XL	Low	8.0	5.0	25.0	7.0	5.0	15.0	10	13.8	1.0	32.0	12.6	1.0	27.0
	High	7.0	5.0	26.0	6.0	5.0	17.0	10	16.0	2.0	34.0	14.0	2.0	31.0

Table 4-2 Linear & Double

Rank	Packing	Air-IN			Air-OUT			b	Inside Air-IN			Inside Air-OUT		
		P	I	D	rP	rI	rD		P	I	D	rP	rI	rD
XS	Low	0.6	8.0	1.1	0.7	8.0	1.2	10	2.0	2.5	1.8	2.0	2.5	1.5
	High	0.8	3.0	1.7	0.9	3.0	1.5	10	3.5	2.0	2.3	4.5	2.0	1.0
SS	Low	0.7	8.0	1.4	1.1	8.0	1.9	10	2.1	2.5	0.8	2.2	2.5	3.0
	High	1.1	3.0	1.9	1.5	3.0	1.6	10	3.2	2.0	1.9	4.3	2.0	3.3
S	Low	1.0	5.0	2.0	1.1	5.0	1.8	10	3.0	2.5	3.2	3.2	2.5	3.2
	High	1.1	5.0	2.2	1.4	5.0	2.2	10	5.0	2.5	4.0	6.0	2.5	3.0
M	Low	4.1	5.0	8.6	4.5	5.0	8.0	10	5.2	2.0	10.3	4.5	2.0	15.2
	High	4.8	5.0	9.2	4.2	5.0	6.0	10	4.8	2.0	12.0	4.5	2.0	16.5
L	Low	10.8	5.0	22.1	12.3	5.0	21.2	10	11.8	2.0	26.1	13.0	2.0	26.2
	High	11.4	5.0	23.2	13.2	5.0	21.7	10	12.8	2.0	27.8	15.0	2.0	27.2
LL	Low	17.0	5.0	34.6	21.0	5.0	36.0	10	17.0	1.0	34.6	21.0	1.0	36.0
	High	17.0	5.0	34.6	23.0	5.0	36.0	10	17.0	2.0	34.6	23.0	2.0	36.0
XL	Low	37.0	5.0	76.0	40.5	5.0	70.0	10	37.0	1.0	95.0	40.5	1.0	88.0
	High	37.0	5.0	76.0	40.5	5.0	70.0	10	37.0	2.0	95.0	40.5	2.0	88.0

Table 4-3 Rotary & Single

Rank	Packing	Air-IN			Air-OUT			b	Inside Air-IN			Inside Air-OUT		
		P	I	D	rP	rI	rD		P	I	D	rP	rI	rD
XS	Low	0.4	5.0	0.5	0.6	5.0	0.8	10	1.7	2.0	3.0	3.8	2.0	1.6
	High	0.6	5.0	0.8	0.6	5.0	0.5	10	1.0	2.0	1.8	3.0	2.0	1.8
SS	Low	0.3	10.0	1.3	0.7	10.0	1.1	10	0.7	2.5	2.8	2.8	2.5	1.8
	High	0.4	10.0	1.5	0.8	10.0	1.0	10	0.5	2.5	2.0	3.2	2.5	2.0
S	Low	0.6	5.0	2.0	1.2	5.0	1.6	10	1.2	2.0	3.2	3.5	2.0	3.0
	High	0.8	5.0	1.5	1.3	5.0	1.6	10	1.4	2.0	4.0	4.4	2.0	4.2
M	Low	1.4	5.0	2.8	2.0	5.0	2.6	10	3.2	2.0	7.2	5.0	2.0	6.8
	High	1.4	5.0	2.8	2.0	5.0	2.6	10	3.2	2.0	7.2	4.5	2.0	6.5
L	Low	1.6	5.0	4.2	2.5	5.0	3.4	10	4.7	1.0	8.2	6.0	1.0	6.8
	High	1.5	5.0	3.5	2.3	5.0	2.5	10	5.0	2.0	12.0	7.5	2.0	9.0
LL	Low	3.4	5.0	10.5	4.6	5.0	10.5	10	6.8	1.0	18.0	12.0	1.5	18.0
	High	3.8	5.0	11.0	4.5	5.0	11.0	10	7.8	2.0	16.5	11.0	2.0	16.5
XL	Low	5.5	5.0	15.0	6.0	5.0	15.0	10	10.0	2.0	20.0	12.0	2.0	20.0
	High	7.0	5.0	15.0	8.0	5.0	15.0	10	14.0	2.0	18.0	15.0	2.0	20.0

Table 4-4 Rotary & Double

Rank	Packing	Air-IN			Air-OUT			b	Inside Air-IN			Inside Air-OUT		
		P	I	D	rP	rI	rD		P	I	D	rP	rI	rD
XS	Low	0.6	5.0	1.4	0.8	5.0	1.4	10	1.9	1.5	2.4	2.3	1.5	2.4
	High	0.8	5.0	1.2	0.9	5.0	1.2	10	2.2	2.0	1.9	2.7	2.0	1.9
SS	Low	0.7	5.0	1.1	0.8	5.0	1.2	10	2.9	1.0	4.0	3.0	1.0	4.0
	High	0.7	5.0	1.1	0.8	5.0	1.2	10	2.9	2.0	4.0	3.0	2.0	4.0
S	Low	1.0	5.0	2.0	1.3	5.0	2.5	10	3.6	1.0	4.4	4.0	1.0	4.4
	High	1.2	5.0	2.2	1.4	5.0	2.2	10	3.8	2.0	4.4	4.2	2.0	4.4
M	Low	2.1	5.0	4.0	2.3	5.0	3.5	10	4.8	1.0	7.0	6.5	1.0	7.5
	High	2.0	5.0	4.0	2.2	5.0	3.5	10	4.8	2.0	7.0	6.5	2.0	7.5
L	Low	2.5	5.0	5.0	3.2	5.0	5.4	10	5.0	1.5	9.0	5.4	1.5	10.0
	High	3.0	5.0	5.4	3.3	5.0	5.0	10	4.3	2.0	10.5	4.6	2.0	11.0
LL	Low	5.2	5.0	11.0	5.2	5.0	10.0	10	8.0	1.5	16.0	8.0	1.5	14.5
	High	5.0	5.0	10.0	5.5	5.0	9.0	10	5.9	2.0	15.0	6.5	2.0	13.5
XL	Low	15.0	5.0	32.0	15.0	5.0	29.0	10	20.0	2.5	44.0	20.0	2.5	41.0
	High	15.0	5.0	30.0	16.0	5.0	27.0	10	17.0	2.0	44.0	21.0	2.0	40.0

Table 3-5 5300LA series

Rank	Packing	Air-IN			Air-OUT			b	Inside Air-IN			Inside Air-OUT		
		P	I	D	rP	rI	rD		P	I	D	rP	rI	rD
SS	Low	0.7	5.0	1.2	1.3	5.0	1.6	10	1.0	1.5	3.0	3.8	1.5	2.5
	High	0.9	5.0	2.3	1.5	5.0	1.9	10	1.5	2.5	4.4	4.0	2.5	3.0
S	Low	1.4	5.0	3.2	2.2	5.0	3.2	10	3.4	1.0	6.1	4.5	1.0	4.9
	High	1.8	5.0	4.5	2.6	5.0	4.0	10	2.7	2.5	9.0	4.0	2.5	4.4
M	Low	3.2	5.0	8.0	3.3	5.0	4.9	10	5.0	1.5	10.3	6.4	1.5	7.1
	High	4.0	5.0	8.0	3.8	5.0	6.3	10	6.0	2.0	15.0	6.7	2.0	8.0
L	Low	6.3	5.0	13.0	5.4	5.0	7.5	10	7.0	1.0	16.5	11.0	1.0	16.3
	High	7.2	5.0	10.5	7.4	5.0	6.8	10	7.7	2.0	20.0	7.4	2.0	18.0
LL	Low	9.0	5.0	21.5	10.0	5.0	18.2	10	9.1	1.5	22.7	10.1	1.5	18.8
	High	13.8	5.0	23.7	12.8	5.0	14.0	10	15.6	2.0	38.1	14.4	2.0	27.4

## 5 PID Parameter Tables in the case of Booster option Enable

(KGP5000 Software 1.0.0 or later/KGP2000 Software 1.0.0 or later)

Table 5-1 Linear & Single

When Booster option is set to **Large**

Rank	Packing	Air-IN			Air-OUT			b	Inside Air-IN			Inside Air-OUT		
		P	I	D	rP	rI	rD		P	I	D	rP	rI	rD
SS	Low	0.5	5.0	0.6	0.4	5.0	0.5	10	4.0	2.0	5.0	5.0	5.0	5.5
	High	0.6	5.0	0.8	0.6	5.0	1.1	10	4.5	2.0	5.5	5.5	5.0	7.0
S	Low	0.7	5.0	1.0	0.9	5.0	1.3	10	4.0	2.0	5.0	5.0	5.0	6.0
	High	0.7	5.0	1.2	0.9	5.0	1.3	10	4.0	2.0	6.0	5.0	5.0	5.0
M	Low	0.8	5.0	1.6	1.0	5.0	1.4	10	4.5	2.0	6.5	6.0	5.0	6.0
	High	0.8	5.0	1.6	1.0	5.0	1.4	10	5.0	2.0	7.0	7.0	5.0	7.0
L	Low	0.8	5.0	1.2	0.9	5.0	1.2	10	4.6	2.0	6.3	5.0	5.0	6.3
	High	0.9	5.0	1.5	0.9	5.0	1.5	10	5.0	2.0	7.0	6.0	5.0	7.0
LL	Low	1.4	5.0	1.8	1.2	5.0	1.8	10	6.0	2.0	9.0	5.0	5.0	8.0
	High	1.4	5.0	2.5	1.2	5.0	2.2	10	7.0	2.0	10.5	6.0	5.0	9.0
XL	Low	1.7	5.0	2.2	1.5	5.0	2.2	10	6.0	2.0	10.4	5.1	2.0	8.7
	High	1.7	5.0	3.1	1.4	5.0	2.7	10	8.1	2.0	12.2	6.4	2.0	9.9

When Booster option is set to **Small**

Rank	Packing	Air-IN			Air-OUT			b	Inside Air-IN			Inside Air-OUT		
		P	I	D	rP	rI	rD		P	I	D	rP	rI	rD
SS	Low	0.4	5.0	1.0	0.6	5.0	0.9	10	2.8	2.0	4.0	4.5	5.0	5.0
	High	0.5	5.0	1.0	0.6	5.0	0.9	10	3.5	2.0	4.5	4.5	5.0	5.0
S	Low	0.7	5.0	1.3	0.8	5.0	1.4	10	3.0	2.0	6.5	3.5	5.0	5.5
	High	0.7	5.0	1.2	0.8	5.0	1.4	10	3.5	2.0	6.5	5.0	5.0	5.0
M	Low	0.8	5.0	1.6	0.9	5.0	1.7	10	4.5	2.0	3.5	4.0	5.0	8.0
	High	0.8	5.0	1.6	0.9	5.0	1.7	10	3.5	2.0	9.0	4.5	5.0	5.5
L	Low	0.8	5.0	1.6	0.9	5.0	1.7	10	4.5	2.0	5.5	4.0	5.0	8.0
	High	0.8	5.0	1.6	0.9	5.0	1.8	10	3.5	2.0	9.0	4.5	5.0	5.5
LL	Low	1.4	5.0	1.8	1.2	5.0	1.8	10	6.0	2.0	9.0	4.0	5.0	12.0
	High	1.4	5.0	2.5	1.2	5.0	3.5	10	5.0	2.0	13.0	5.0	5.0	13.0
XL	Low	1.8	5.0	2.1	1.4	5.0	2.1	10	7.3	2.0	10.4	3.9	2.0	14.5
	High	1.7	5.0	3.1	1.4	5.0	4.4	10	8.1	2.0	12.2	6.4	2.0	9.9

Table 5-2 Linear & Double

When Booster option is set to **Large**

Rank	Packing	Air-IN			Air-OUT			b	Inside Air-IN			Inside Air-OUT		
		P	I	D	rP	rI	rD		P	I	D	rP	rI	rD
XS	Low	0.3	5.0	0.3	0.4	5.0	0.5	10	5.5	2.0	8.5	4.0	2.0	6.0
	High	0.4	5.0	0.7	0.5	5.0	0.6	10	5.5	2.0	8.5	4.0	2.0	6.0
SS	Low	0.9	5.0	1.8	1.1	5.0	1.6	10	6.0	2.0	6.5	6.0	2.0	8.5
	High	1.1	5.0	2.3	1.2	5.0	1.7	10	6.5	2.0	8.0	6.5	2.0	8.0
S	Low	2.0	5.0	4.0	2.5	5.0	4.0	10	7.0	2.0	9.0	7.0	2.0	9.0
	High	2.6	5.0	5.2	3.0	5.0	4.0	10	7.0	2.0	9.0	7.0	2.0	9.0
M	Low	3.5	5.0	5.5	5.5	5.0	8.5	10	10.0	2.0	10.0	10.0	2.0	10.0
	High	5.0	5.0	9.0	5.5	5.0	7.0	10	8.5	2.0	10.0	10.0	2.0	9.5
L	Low	12.0	5.0	24.0	15.0	5.0	20.0	10	10.0	2.0	20.0	13.0	2.0	20.0
	High	11.5	5.0	24.0	14.0	5.0	20.0	10	10.0	2.0	20.0	11.0	2.0	20.0
LL	Low	15.0	5.0	30.0	20.0	5.0	30.0	10	15.0	2.0	30.0	18.0	2.0	30.0
	High	15.0	5.0	30.0	20.0	5.0	30.0	10	20.0	2.0	25.0	20.0	2.0	25.0

When Booster option is set to **Small**

Rank	Packing	Air-IN			Air-OUT			b	Inside Air-IN			Inside Air-OUT		
		P	I	D	rP	rI	rD		P	I	D	rP	rI	rD
XS	Low	0.3	5.0	0.3	0.4	5.0	0.5	10	5.0	2.0	5.5	4.0	2.0	6.0
	High	0.4	5.0	0.7	0.5	5.0	0.6	10	4.5	2.0	8.5	4.0	2.0	6.0
SS	Low	0.8	5.0	1.6	1.2	5.0	1.6	10	5.5	2.0	6.5	6.0	2.0	10.0
	High	1.1	5.0	1.8	1.2	5.0	1.6	10	6.0	2.0	6.5	6.0	2.0	8.0
S	Low	2.5	5.0	7.0	3.0	5.0	7.0	10	10.0	2.0	15.0	10.0	2.0	13.0
	High	3.0	5.0	10.0	4.0	5.0	8.0	10	8.5	2.0	9.0	10.0	2.0	10.0
M	Low	3.5	5.0	11.0	3.5	5.0	13.0	10	10.0	2.0	15.0	10.0	2.0	13.0
	High	5.0	5.0	15.0	5.0	5.0	10.0	10	8.5	2.0	9.0	10.0	2.0	10.0
L	Low	12.0	5.0	24.0	15.0	5.0	20.0	10	10.0	2.0	20.0	13.0	2.0	20.0
	High	12.5	5.0	24.0	17.0	5.0	20.0	10	10.0	2.0	20.0	11.0	2.0	20.0
LL	Low	20.0	5.0	30.0	20.0	5.0	30.0	10	15.0	2.0	30.0	18.0	2.0	30.0
	High	20.0	5.0	30.0	20.0	5.0	30.0	10	20.0	2.0	25.0	20.0	2.0	25.0

Table 5-3 Rotary & Single

When Booster option is set to **Large**

Rank	Packing	Air-IN			Air-OUT			b	Inside Air-IN			Inside Air-OUT		
		P	I	D	rP	rI	rD		P	I	D	rP	rI	rD
SS	Low	0.5	5.0	0.8	0.7	5.0	1.2	10	4.0	2.0	6.0	5.0	5.0	5.0
	High	0.6	5.0	1.0	0.6	5.0	1.1	10	4.5	2.0	6.0	5.5	5.0	6.0
S	Low	0.4	5.0	0.8	0.8	5.0	1.2	10	4.5	2.0	6.5	3.5	5.0	4.5
	High	0.7	5.0	1.3	0.7	5.0	1.2	10	4.5	2.0	5.0	6.0	5.0	7.0
M	Low	1.0	5.0	1.8	1.3	5.0	2.4	10	4.0	2.0	6.0	6.5	5.0	7.0
	High	1.0	5.0	2.5	1.2	5.0	2.2	10	5.0	2.0	7.0	6.0	5.0	6.0
L	Low	2.3	5.0	3.9	2.8	5.0	5.4	10	4.5	2.0	9.9	6.3	5.0	9.9
	High	2.3	5.0	3.9	2.8	5.0	5.4	10	4.5	2.0	9.9	6.3	5.0	9.9
LL	Low	3.0	5.0	5.2	3.7	5.0	7.2	10	11.3	2.0	10.6	12.0	5.0	13.4
	High	2.4	5.0	4.7	3.0	5.0	5.6	10	10.7	2.0	10.5	9.7	5.0	10.5

When Booster option is set to **Small**

Rank	Packing	Air-IN			Air-OUT			b	Inside Air-IN			Inside Air-OUT		
		P	I	D	rP	rI	rD		P	I	D	rP	rI	rD
SS	Low	0.4	5.0	0.8	0.7	5.0	1.2	10	3.5	2.0	6.0	4.5	5.0	4.5
	High	0.7	5.0	1.2	0.7	5.0	1.2	10	3.5	2.0	4.5	5.0	5.0	5.0
S	Low	0.4	5.0	0.8	0.8	5.0	1.3	10	3.0	2.0	4.0	5.0	5.0	7.0
	High	0.6	5.0	1.1	0.8	5.0	1.3	10	3.5	2.0	4.5	5.0	5.0	6.0
M	Low	0.9	5.0	1.8	1.3	5.0	2.4	10	3.5	2.0	5.0	6.0	5.0	7.0
	High	1.0	5.0	2.7	1.2	5.0	2.4	10	3.5	2.0	6.5	5.0	5.0	8.0
L	Low	1.4	5.0	2.7	1.8	5.0	3.6	10	8.5	2.0	8.5	8.5	5.0	9.5
	High	1.4	5.0	2.7	1.8	5.0	3.6	10	8.5	2.0	8.5	8.5	5.0	9.5
LL	Low	2.2	5.0	4.2	2.8	5.0	5.6	10	11.3	2.0	15.8	13.9	5.0	17.5
	High	2.2	5.0	4.5	2.5	5.0	5.8	10	11.8	2.0	12.8	10.6	5.0	14.0

Table 5-4 Rotary & Double

When Booster option is set to **Large**

Rank	Packing	Air-IN			Air-OUT			b	Inside Air-IN			Inside Air-OUT		
		P	I	D	rP	rI	rD		P	I	D	rP	rI	rD
SS	Low	0.5	5.0	0.8	0.5	5.0	0.7	10	5.5	2.0	6.0	5.5	5.0	6.0
	High	0.5	5.0	0.8	0.5	5.0	0.6	10	6.0	2.0	6.0	6.0	5.0	6.0
S	Low	0.7	5.0	1.1	0.7	5.0	1.1	10	7.0	2.0	9.0	6.0	2.0	9.0
	High	0.7	5.0	1.1	0.7	5.0	1.0	10	7.0	2.0	9.0	6.0	2.0	9.0
M	Low	1.2	5.0	2.0	1.3	5.0	1.8	10	6.5	2.0	8.0	7.0	2.0	9.0
	High	1.2	5.0	1.9	1.4	5.0	2.0	10	6.5	2.0	8.5	7.0	2.0	9.0
L	Low	1.8	5.0	3.0	1.9	5.0	2.6	10	7.5	2.0	9.5	8.0	2.0	10.0
	High	1.8	5.0	2.9	2.2	5.0	3.2	10	7.0	2.0	9.0	7.0	2.0	9.0
LL	Low	4.9	5.0	8.4	5.3	5.0	7.1	10	11.3	2.0	15.8	13.9	2.0	17.5
	High	4.9	5.0	8.1	6.4	5.0	9.5	10	11.3	2.0	15.8	13.9	2.0	17.5

When Booster option is set to **Small**

Rank	Packing	Air-IN			Air-OUT			b	Inside Air-IN			Inside Air-OUT		
		P	I	D	rP	rI	rD		P	I	D	rP	rI	rD
SS	Low	0.5	5.0	0.9	0.5	5.0	0.8	10	4.5	2.0	5.5	6.0	5.0	7.0
	High	0.6	5.0	1.2	0.6	5.0	0.9	10	4.5	2.0	5.5	6.0	5.0	7.0
S	Low	0.6	5.0	0.9	0.7	5.0	0.9	10	5.5	2.0	8.0	6.0	2.0	6.0
	High	0.8	5.0	1.3	0.8	5.0	1.1	10	6.0	2.0	9.0	6.5	2.0	9.0
M	Low	1.2	5.0	1.9	1.3	5.0	1.8	10	5.5	2.0	7.5	6.5	2.0	8.5
	High	1.2	5.0	2.0	1.4	5.0	1.9	10	5.5	2.0	7.5	6.5	2.0	8.5
L	Low	1.8	5.0	3.0	1.9	5.0	2.6	10	6.5	2.0	9.0	8.0	2.0	9.5
	High	1.7	5.0	2.9	2.2	5.0	3.0	10	7.0	2.0	9.0	7.0	2.0	9.0
LL	Low	5.0	5.0	8.6	5.3	5.0	7.3	10	9.1	2.0	14.9	14.0	2.0	18.5
	High	4.3	5.0	7.2	6.1	5.0	8.2	10	12.0	2.0	14.7	9.1	2.0	12.2

Table 5-5 5300LA series

When Booster option is set to **Large**

Rank	Packing	Air-IN			Air-OUT			b	Inside Air-IN			Inside Air-OUT		
		P	I	D	rP	rI	rD		P	I	D	rP	rI	rD
SS	Low	0.4	5.0	0.5	0.6	5.0	0.7	10	4.0	2.0	6.0	6.0	5.0	5.0
	High	0.7	5.0	0.7	0.6	5.0	0.7	10	5.0	2.0	8.0	6.0	5.0	5.0
S	Low	0.8	5.0	1.1	0.9	5.0	1.0	10	5.0	2.0	7.0	6.0	5.0	3.2
	High	0.7	5.0	0.9	1.0	5.0	1.3	10	5.0	2.0	8.0	8.0	5.0	6.0
M	Low	1.0	5.0	1.7	0.9	5.0	1.2	10	4.0	2.0	6.0	5.0	5.0	6.0
	High	1.0	5.0	1.7	0.9	5.0	1.2	10	4.0	2.0	6.0	5.0	5.0	7.0
L	Low	1.5	5.0	3.0	1.4	5.0	1.5	10	6.0	2.0	9.0	8.0	5.0	9.0
	High	1.5	5.0	3.0	1.4	5.0	1.5	10	6.0	2.0	9.0	8.0	5.0	9.0

When Booster option is set to **Small**

Rank	Packing	Air-IN			Air-OUT			b	Inside Air-IN			Inside Air-OUT		
		P	I	D	rP	rI	rD		P	I	D	rP	rI	rD
SS	Low	0.5	5.0	0.6	0.7	5.0	1.1	10	3.5	2.0	5.0	5.0	5.0	2.0
	High	0.6	5.0	0.8	0.7	5.0	0.9	10	4.0	2.0	6.5	4.5	5.0	4.0
S	Low	0.7	5.0	1.1	0.9	5.0	1.2	10	4.0	2.0	6.0	5.5	5.0	6.0
	High	0.7	5.0	1.0	0.9	5.0	1.1	10	4.3	2.0	6.8	5.1	5.0	5.5
M	Low	0.9	5.0	1.5	0.9	5.0	1.2	10	2.6	2.0	7.0	4.0	5.0	6.0
	High	1.0	5.0	1.7	0.9	5.0	1.4	10	4.0	2.0	7.0	5.0	5.0	7.0
L	Low	1.6	5.0	3.3	1.5	5.0	2.9	10	5.3	2.0	10.7	7.0	5.0	10.7
	High	1.5	5.0	3.0	1.4	5.0	1.5	10	6.0	2.0	9.0	8.0	5.0	9.0