KFDB

4. Model KFDB differential pressure indicating controller

4-1. KFDB standard type

Model No. : KFDB [ ][ ] - [I][II][III][IV][V][VI][VII][VIII][IX] - [X]

Basic No. / Selection / Option

Model No. Ex. KFDB22 -332244A1T -M67

Selection

I II Element Type — Range

	Range
High	25 to 500kPa {2,500 to 50,000 mm H2O}
Med	2.5 to 53.9kPa {250 to 5,500 mm H2O}
Low	0.5 to 6kPa {50 to 600 mm H2O}
Lowest	0.1 to 1.2kPa {10 to 120 mm H2O}
High Press	25 to 500 kPa {2500 to 50,000 mm H2O}
High	2.5 to 53.0kPa {250 to 5,500 mm H2O}

III to VI Cover & Diaphragm

III	HP Cover Material	1 : SF45
IV	LP Cover Material	2 : SUS316
V	HP Diaph. Material	3 : Monel
VI	LP Diaph. Material	4 : Tantalum
		5 : Rigid PVC
		8 : SUS316L

III to VI Cover & Diaphragm

III	HP Cover Material	1 : SF440A
IV	LP Cover Material	2 : SUS316
V	HP Diaph. Material	3 : Monel
VI	LP Diaph. Material	4 : Tantalum
		5 : Rigid PVC
		8 : SUS316L

VII Air piping connect: Rc 1/4 internal; 1/4 NPT internal

VIII Pneumatic Signal * 1: 0.2 to 1.0kgf/cm²; 3 to 15psi.; 0.2 to 1.0 bar; 20 to 100 kPa; (equality to 0.2 to 1.0kgf / cm²); 19.6 to 98.1kPa; sub: kgf/cm² (0.2 to 1.0kgf/cm²); main: Pa (20 to 100 kpa); Dual Scale; sub: pa (20 to 100 kpa); main: kgf/cm² (0.2 to 1.0kgf/cm²); Dual Scale

X Option

IX Mounting: Panel; 2 -inch Pipe

No Option; With External Sp Manual Setting Knob; With Built -in Manual Controller With Auto/Manual Switch; Elevation; Suppression; Pressure regulator with filter; For high accuracy

Y -Spec

Vacuum Service * 9; With Steam Block * 2; Stainless steel Bolt * 3; Corrosion proof/Silver coating * 5; With Adjustable Damper * 13; Rear Process Pipe Connec. * 5; Degreasing for Oxygen Service * 6; Chlorine Service * 7; Measuring Controller for Small -Flow *10

Type	Control Model	Model No. / Basic No.	Price	11	22	33	44	81	82	1122	1188	2222	2233	2244	2288	3333	5533	5544	A	B	1	2	3	4	8	9	0	P	T	X	K	M	5	6	7	H	23	29	66	138[ ]	169	171	182	183	186
Indicating Transmitter	Non -Control	KFDB00	1,183	✓	✓	✓	✓	✓	✓	0	39 58 97	8	46 102	20	72 102	90	166 179	229	339 351	27	77 141	281	326	102	154	224	306	0	0	0	20	0	0	20	0	0	0	8	67	17	17	31	5	27	33	16	27	* 4	8	14	46	58	46	58	46
Indicating Controller: [ ] = 1 (Local Type)	P+Manual Reset	KFDB[ ]1	1,178	✓						✓		✓		✓		✓		✓	✓		✓		✓		✓		✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
	PI	KFDB[ ]2	1,189		✓					✓		✓		✓		✓		✓	✓		✓		✓		✓		✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
	PID	KFDB[ ]3	1,251		✓					✓		✓		✓		✓		✓	✓		✓		✓		✓		✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
						✓					✓		✓		✓		✓		✓	✓		✓		✓		✓		✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
	On -Off	KFDB[ ]6	1,173				✓				✓		✓		✓		✓		✓	✓		✓		✓		✓		✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
	Differential Gap	KFDB[ ]7	1,172					✓			✓		✓		✓		✓		✓	✓		✓		✓		✓		✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
	P + External Reset	KFDB[ ]8	1,185						✓		✓		✓		✓		✓		✓	✓		✓		✓		✓		✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
	PD+External Reset	KFDB[ ]9	1,251						✓		✓		✓		✓		✓		✓	✓		✓		✓		✓		✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Indicating Controller: [ ] = 3 (Cascade Type)	P+Manual Reset	KFDB[ ]1	1,371	✓						✓		✓		✓		✓		✓	✓		✓		✓		✓		✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
	PI	KFDB[ ]2	1,349		✓					✓		✓		✓		✓		✓	✓		✓		✓		✓		✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
	PID	KFDB[ ]3	1,412		✓					✓		✓		✓		✓		✓	✓		✓		✓		✓		✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
	PD+Manual Reset	KFDB[ ]4	1,336			✓					✓		✓		✓		✓		✓	✓		✓		✓		✓		✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
	PI + Batch	KFDB[ ]5	1,456			✓					✓		✓		✓		✓		✓	✓		✓		✓		✓		✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
						✓					✓		✓		✓		✓		✓	✓		✓		✓		✓		✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
	On -Off	KFDB[ ]6	1,334				✓				✓		✓		✓		✓		✓	✓		✓		✓		✓		✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
	Differential Gap	KFDB[ ]7	1,336					✓			✓		✓		✓		✓		✓	✓		✓		✓		✓		✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
	P + External Reset	KFDB[ ]8	1,349						✓		✓		✓		✓		✓		✓	✓		✓		✓		✓		✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
	PD+External Reset	KFDB[ ]9	1,412						✓		✓		✓		✓		✓		✓	✓		✓		✓		✓		✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓

Note * 1. Contact YAMATAKE when engineering units are different between input range pressure and output signal pressure.

* 2 Cannot be featured in the case of Monel and PVC cover for Selection III and IV ; I.e. KFDB[ ][ ] -3333,5533,5544

* 3 Maximum working pressures for stainless steel bolt are as shown in the table below.

Model No.	Cover Material (Selection III, IV)			
	SF45	SUS316	Monel	PVC
KFDB[ ][ ] -11,22	60kgf / cm²	60kgf / cm²	60kgf / cm²	15kgf / cm²
KFDB[ ][ ] -33	25kgf / cm²	25kgf / cm²	25kgf / cm²	10kgf / cm²
KFDB[ ][ ] -81,82	230kgf / cm²	230kgf / cm²	-	-

* 4 Refer to Common Data on KF Series.

* 13 Time constant (continuously adjustable) is as follows.

(1) KFDB[ ][ ] -11,22,81, 82 : 0.5 sec. or less min., 30 sec. or more max.

(2) KFDB[ ][ ] -33 : 1.5 sec. or less min., or more max.

(3) KFDB[ ][ ] -44 : With adjustable damper as standard. 2 sec. Or less min., 25 sec. Or more max.

* 7 Available for diaphragm material only in Tantalum Fill liquid : Fluoric oil Wetted part : Degreased

Working temperature (fluid, ambient) : -10 to 80°C I.e., KFDB[ ][ ] -[ ][ ]2244, [ ][ ] -5544

* 9 Vacuum Service is not available with Y182, Y183 and Y169.

*10 Applicable Model : KFDB[ ][ ] -22,38,82

*11 Process connection

Rc1/2: Default.

1/2NPT: Specify with SP0034(Air Piping Connection code "B" should be selected.)

Rc1/4: Specify in remarks of Item window.

1/4NPT: Specify in reomarks of item window, with SP0034 (Air Piping Connection code "B" should be selected.)

4. Model KFDB differential pressure indicating controller

4-2. KFDB flange type, remote seal diaphragm type

Model No. KFDB [Basic No.] - [Selection: I II III IV V VI VII VIII IX X XI XII] - [Option: XIII]

Model No. Ex.

KFDB22 -611122100A1F -M7

KFDB42 -721122503A1T -M7

Selection I II Element

	Flange: High Range	Flange: Middle Range	Remote Seal Diaphragm: High Range	Remote Seal Diaphragm: Middle Range
Range	25 to 500kPa {2,500 to 50,000mmH2O}	2.5 to 53.0kPa {250 to 5,500mmH2O}	25 to 500kPa {2,500 to 50,000mmH2O}	2.5 to 53.9kPa {250 to 5,500mmH2O}
Model No.	61	62	71	72
Price	0	0	0	0

Type	Control Model	Basic No.	Price	61	62	71	72
Indicating Transmitter	Non -Control	KFDB 00	1,160	✔	✔		
						✔	✔
Indicating Controller [ ] =1 Indicating Transmitting Controller [ ] = 2 (Local Type)	P+Manual Reset	KFDB[ ]1	1,167	✔	✔		
	PI	KFDB[ ]2	1,177	✔	✔		
	PID	KFDB[ ]3	1,238	✔	✔		
	PD+Manual Reset	KFDB[ ]4	1,229	✔	✔		
	PI + Batch	KFDB[ ]5	1,283	✔	✔		
	On -Off	KFDB[ ]6	1,168			✔	✔
	Differential Gap	KFDB[ ]7	1,160			✔	✔
	P + External Reset	KFDB[ ]8	1,177			✔	✔
	PD+External Reset	KFDB[ ]9	1,238			✔	✔
Indicating Controller [ ] =3 Indicating Transmitting Controller [ ] = 4 (Cascade Type)	P+Manual Reset	KFDB[ ]1	1,307	✔	✔		
	PI	KFDB[ ]2	1,317	✔	✔		
	PID	KFDB[ ]3	1,376	✔	✔		
	PD + Manual Reset	KFDB[ ]4	1,373	✔	✔		
	PI + Batch	KFDB[ ]5	1,418	✔	✔		
	On -Off	KFDB[ ]6	1,312			✔	✔
	Differential Gap	KFDB[ ]7	1,303			✔	✔
	P + External Reset	KFDB[ ]8	1,317			✔	✔
	PD + External Reset	KFDB[ ]9	1,376			✔	✔

Selection III to VI Cover & Diaphragm

III HP side Flange material / IV LP side Cover material / V HP side Diaph. material / VI LP side Diaph. material

Standard Flange Type: ~~1 : SF45~~, 2 : SUS316, 3 : Monel Lining, 4 : Tantalum, 5 : Rigid PVC, 7 : SUS304, 8 : SUS316L

Extended Flange: ~~1 : SF45~~, 2 : SUS316, 3 : Monel, 4 : Tantalum, 5 : Rigid PVC, 7 : SUS304, 8 : SUS316L

	Standard Flange Type																			Extended Flange								
Model No.	1122	1122	1133	1144	1188	1188	1222	7222	7233	7244	7288	7333	7533	7544	7722	7733	7744	7788		1122	1122	1188	1188	1222	7222	7288	7722	7788
Price	0	262	331	466	0	255	8	46	173	242	46	229	160	224	306	439	593	312		65	395	65	402	97	135	135	439	439

Selection VII Flange Rating

	Standard Flange								Extended Flange							
	80mm JIS 10K (RF)	80mm JIS 30K (RF)			3in. ANSI 150 (RF)	3in. ANSI 300 (RF)			100mm JIS 10K (RF)	100mm JIS 30K (RF)			4in. ANSI 150 (RF)	4in. ANSI 300 (RF)		
Model No.	1	2			3	4			5	6			7	8		
Price	0	20	33	46	0	20	33	46	0	20	39	52	0	20	39	52

Selection VIII to XII

	VIII Capillary Length			IX Extended Flange Length			X Air Piping connection		XI Pneumatic Signal *1							XII Mounting		
	2m	3m	5m	None	100mm	150mm	Rc 1 / 4 internal	1 / 4 NPT internal	0.2 to 1.0kgf/cm2	3 to 15psi.	0.2 to 1.0 bar	20 to 100 kPa	19.6 to 98.1kPa (equality to 0.2 to 1.0kgf / cm2)	Dual Scale main: Pa (20 to 100 kpa) sub: kgf/cm2(0.2 to 1.0 kgf/cm2)	Dual Scale main: kgf/cm² (0.2 to 1.0kgf/cm²) sub: pa (20 to 100 kpa)	Flange	2 -inch Pipe	Panel
Model No.	02	03	05	00	10	15	A	B	1	2	3	4	8	A	D	F	T	P
Price	0	0	27	0	0	14	0	0	0	0	20	0	0	20		0	0	0

XIII Option

	No Option	Manual setting Knob With External SP	With Built -in Manual Controller With Auto/Manual Switch	Elevation	Suppression	Pressure regulator with filter
Model No.	X	K	M	5	6	7
Price	0	8	67	17	17	31

Y -Spec

	Vacuum Service	High Temp. Service	High Temp. -Vacuum Service	Stainless steel Bolt	Corrosion -resistant Silver coating	Adjustable Damper	Degreasing for Oxygen Service	Chlorine Service
Note	* 7	* 2	*2*7	* 3		*10	* 5	* 6
Model No.	23	62	62 + Y2	66	138[ ]	169	182	183
Price	27	39	39	16	* 4	8	77	77

Note :
* 1 For Signal in bar or kPa, refer to Common Data
* 2 Working temperature : Fluid : -10 to +200 deg.C, Ambient : -10 to + 80 deg.C
  Fill Liquid : Special Silicone Oil
* 3 Maximum working pressures for stainless steel bolt are as shown in the table below.

Model No.	laterial (Selection VI)	
	SF45,SUS	PVC
KFDB[ ][ ] -61,62	60 kgf / cm²	15 kgf / cm²

* 4 Refer to Common Data.
*5 Available for diaphragm material only in SUS316, SUS316L,
  Fill Liquid : Fluoric Oil, Wetted part : Degreased Working temperature (fluid, ambient) : - 10 to 60 deg.C
  i.e., KFDB[ ][ ] -[ ][ ]1222, -[ ][ ]7222, -[ ][ ]7288 KFDB [ ][ ] -[ ][ ]7722, -[ ][ ]7788
* 6 Available for diaphragm material only in Tantalum.
  Fill Liquid : Fluoric Oil, Wetted part : Degreased
  Working temperature (fluid, ambient) : - 10 to +80 deg.C

* 2 Working temperature : Fluid : -5 to +280 deg.C, Ambient : -10 to + 80 deg.C
  Fill Liquid : Special Silicone Oil
* 3 Maximum working pressures for stainless steel bolt are as shown in the table below.

Model No.	Cover Material (Selection VI)	
	SUS, Monel	PVC
KFDB[ ][ ] -61,62	60 kgf / cm²	15 kgf / cm²

* 4 Refer to Common Data.
*5 Available for diaphragm material only in SUS316, SUS316L,
Fill Liquid : Fluoric Oil, Wetted part : Degreased Working temperature (fluid, ambient) : - 10 to 75 deg.C
i.e., KFDB[ ][ ] -[ ][ ]1222, -[ ][ ]7222, -[ ][ ]7288 KFDB [ ][ ] -[ ][ ]7722, -[ ][ ]7788
* 6 Available for diaphragm material only in Tantalum.
  Fill Liquid : Fluoric Oil, Wetted part : Degreased
  Working temperature (fluid, ambient) : - 10 to +75 deg.C
  *10 Time constant (continuously adjustable) : 0.5 sec. Or less min, 30 sec. Or more max.

* 7 Vacuum Service is not available with Y182, Y183 and Y169.