

CONSTRUCTION FEATURES

All-welded construction—provides strength and durability for extended service life in a wide range of applications.

Heavy-gauge steel housing—rigidly supported with structural bracing...Sizes 18-33 are rotatable in 22½° increments...Sizes 36-73 have fixed housings.

Lifting eyes—standard on all sizes.

Finish—two-coat paint system consisting of one prime coat and one finish coat of medium-green enamel.

Shafting—turned, ground, and polished shafting is straightened to close tolerance to minimize “run out” and ensure smooth operation. This, coupled with proper shaft-to-bearing fit, maximizes bearing operating life.

Bearings—spherical roller bearings selected for ample service factor for full performance range.

Precision balancing—all AcoustaFoil and PLR wheels are statically and dynamically balanced before final assembly. After assembly, all fans are balanced on a rigid test pad at the specified running speed.

MATERIAL SPECIFICATIONS [DIMENSIONS IN INCHES]

Size	Housing					Bearing pedestal					
	Scroll	Side sheet	Side angle†	Base bar	Inlet collar	Arrangement 1 and 8				Arr. 3 and 7	
						Bearing bar	Pedestal top	Pedestal side	Bearing	Bearing bar	Bearing
18	10	10	—	3 x ¾	10	3 x ¾	¾	¼	G	—	—
22	10	10	—	3 x ¾	10	3 x ¾	¾	¼	G	—	—
24	10	10	—	4 x ½	10	4 x ½	¾	¼	G	—	—
27	10	10	—	4 x ½	10	4 x ½	½	¾	G	—	—
30	10	10	—	4 x ½	10	4 x ½	½	¾	G	3 x ¾	E
33	7	7	—	4 x ½	10	4 x ½	½	¾	G	4 x ½	E
36	7	7	A	3 x ¾	7	4 x ½	½	¾	G	4 x ½	E
40	7	7	A	3 x ¾	7	5 x ⅝	½	¾	G	4 x ½	E
44	7	7	A	3 x ¾	7	5 x ⅝	½	¾	G	4 x ½	E
49	7	7	A	3 x ¾	7	5 x ⅝	½	¾	G	5 x ⅝	E
54	7	7	B	4 x ½	7	5 x ⅝	½	¾	G	5 x ⅝	E
60	7	7	B	4 x ½	7	6 x ¾	½	¾	G	5 x ⅝	E
66	7	7	C	5 x ⅝	7	6 x ¾	½	¾	G	5 x ⅝	E
73	7	7	C	5 x ⅝	7	7 x 1	½	¾	G	7 x 1	F

Bearing types: E = LinkBelt 22400 spherical roller bearing. F = LinkBelt 22500 spherical roller bearing.

G = LinkBelt 6800 spherical roller bearing. **nyb** reserves the right to substitute bearings of equal rating.

† Dimensions indicated by letter are in inches as follows: A = 3 x 2 x ¾/16; B = 4 x 3 x ¼; C = 5 x 3 ½ x ⅝/16.

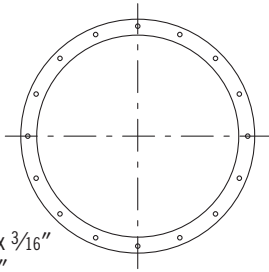
MATERIAL SPECIFICATIONS [DIMENSIONS IN INCHES]

Size	Shaft		Acoustafoil		PLR		Bare fan weight [lbs.]			
	Arrangement 1 and 8	Arrangement 3 and 7	Wheel weight [lbs.]	WR² [lb-ft²]	Wheel weight [lbs.]	WR² [lb-ft²]	Arrangement 1		Arrangement 3	
							AcF	PLR	AcF	PLR
18	1 1/16	—	49	14	48	12	362	359	—	—
22	1 5/16	—	73	36	67	32	495	489	—	—
24	2 3/16	—	100	54	100	53	665	665	—	—
27	2 7/16	—	115	78	117	78	905	907	—	—
30	2 7/16	2 3/16	151	120	152	120	1191	1192	990	991
33	2 1 1/16	2 3/16	180	185	173	170	1532	1525	1197	1190
36	2 15/16	2 7/16	268	316	261	298	1782	1775	1414	1407
40	3 7/16	2 1 1/16	310	503	339	514	2153	2182	1730	1759
44	3 7/16	2 15/16	410	814	438	860	2731	2759	2342	2370
49	3 15/16	2 15/16	631	1307	661	1362	3247	3277	2599	2629
54	3 15/16	3 7/16	788	2125	824	2200	4347	4383	3503	3539
60	4 7/16	3 15/16	916	3103	953	3205	5407	5444	4094	4131
66	4 15/16	3 15/16	1262	5337	1209	4831	7459	7406	6193	6140
73	5 7/16	4 7/16	1536	8172	1465	7480	8385	8314	6817	6746

FLANGE DIMENSIONS

FLANGED INLET OPTION

Holes furnished on vertical centerline.



Note: Inlet-flange angles:
 Sizes 18-22 . . 1½" x 1½" x ⅜"
 Sizes 24-73 . . 2" x 2" x ⅜"

DIMENSIONS [INCHES]

Size	ID	BC	OD	Holes	
				No.	Dia.
18	20	21¾	23	16	⅞
20‡	21¾	23½	24¾	16	⅞
22	24¾	36½	27¾	16	⅞
24	26⅞	29⅞	30⅞	16	⅞
27	29½	31¾	33½	16	⅞
30	32⅞	35⅞	36⅞	16	⅞
33	36½	38¾	40½	16	⅞
36	40½	42¾	44½	16	⅞
40	43⅞	46⅞	47⅞	24	⅞
44	48⅞	51⅞	52⅞	24	⅞
49	53⅞	56⅞	57⅞	24	⅞
54	59¾	61¾	63¾	24	⅞
60	66½	68¾	70¾	32	⅞
66	72¾	74⅞	76¾	32	⅞
73	80¾	82⅞	84¾	32	⅞

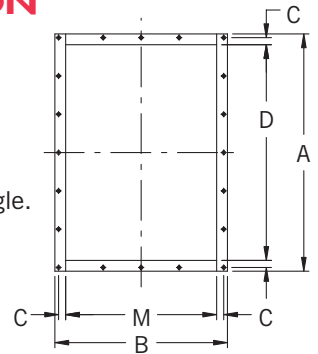
‡ Note: Size 20 fan is only available in Arrangement 4 options.

Tolerance: ± ⅛"

FLANGED OUTLET OPTION

1. Flange face mounted flush with outside edge of housing discharge.
2. Holes furnished on 4" centers from centerlines.
3. For alloy construction:
 Sizes 18-22 . . 1¼" x 1¼" x ⅜" angle.

NOTE: Outlet-flange angles or material gauge:
 Sizes 12-22* . . 7 gauge plate.
 Sizes 24-33 . . 1½" x 1½" x ⅜" angle.
 Sizes 36-73 . . 2" x 2" x ⅜" angle.



DIMENSIONS [INCHES]

Size	A*	B†*	C	D•	M•†	Holes/flange		Hole dia.
						Sides	†Top/ bottom	
18	23½	16⅞	¾	20½	13½/16	5	3	⅞
20	25⅞	18	¾	22⅞	15/16	7	3	⅞
22	27⅞	19⅞	¾	24⅞	16½/16	7	3	⅞
24	30¾	21½	⅞	27¾	18½	7	5	⅞
27	33¼	23¾	⅞	30¼	20¾	9	5	⅞
30	36½	25¾	⅞	33½	22¾	9	5	⅞
33	39¾	27⅞	⅞	36⅞	24⅞	9	5	⅞
36	44¾	31½	1⅞	40¾	27½	11	7	⅞
40	48⅞	34¾	1⅞	44⅞	30¾	11	7	⅞
44	53¾	37½	1⅞	49¾	33½	13	7	⅞
49	58¾	40⅞	1⅞	54¾	36⅞	15	9	⅞
54	64¾	44¾	1⅞	60¾	40¾	15	9	⅞
60	70⅞	49	1⅞	66⅞	45	17	11	⅞
66	77½	53½	1⅞	73½	49½	19	11	⅞
73	85¼	58¾	1⅞	81¼	54¾	21	13	⅞

† Dimensions will vary with narrow-width construction.

Tolerance: ± ⅛"

• Dimension shown is inside flange, outside housing, Deduct housing material thicknesses to determine inside dimensions of discharge.

* Materials of construction for mild steel only. Alloy construction uses angle on all sizes. A and B dimensions will vary in Sizes 18-22.

ARRANGEMENT 4 AVAILABILITY

ARRANGEMENT

4



Traditional arrangement utilizing fan pedestal and foot-mounted motor. Seven discharge positions are available to meet requirements.

Max. temperature: 180°F.

ARRANGEMENT

4-F



Most compact arrangement with motor mounting directly to housing and fan flush-mounted to the customer's mating surface.

Max. temperature: 120°F.

ARRANGEMENT

4-H



Designed for mounting so the fan shaft is horizontal. Motor mounts directly to the fan housing. Fan is flange-mounted to the customer's mating surface.

Max. temperature: 120°F.

ARRANGEMENT

4-V



Similar to the 4-F. Designed for mounting so the fan shaft is vertical. Motor mounts directly to fan housing. Fan is flange-mounted to the customer's mating surface.

Max. temperature: 120°F.

ARRANGEMENT 7 AND 8 MOTOR PEDESTAL DIMENSIONS

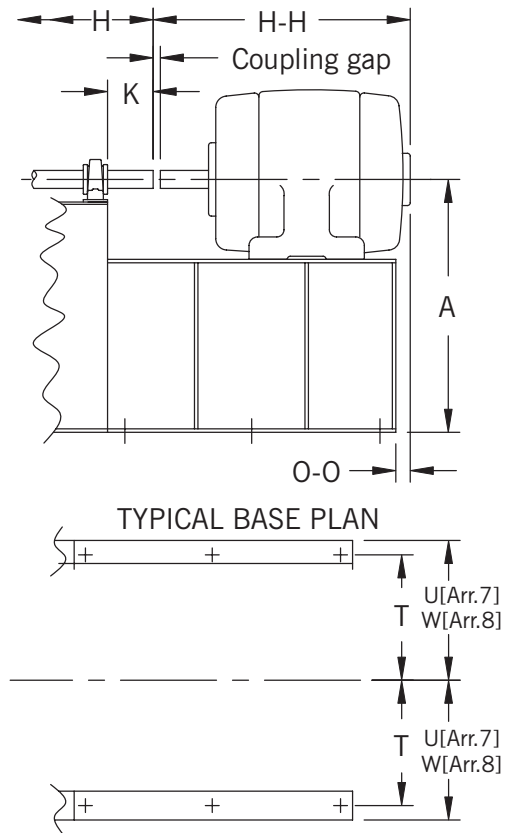
These approximate dimensions can be used to estimate the overall size of Arrangement 7 and 8 fans. Add the appropriate dimensions below to fan dimensions on page 15.

Note: coupling gap is based on the FALK STEELFLEX coupling sizes shown. As the gap will vary with other coupling sizes or types, so will the Arrangement 7 or 8 motor pedestal dimensions.

DIMENSIONS [INCHES]

Motor frame size	Coupling		O-O*		H-H*			
	Size	Gap	Min.	Max.	Open		TE	
					Min.	Max.	Min.	Max.
143 -145T	30T	1/8	3/4	3 1/8	10 7/8	12 1/2	11 5/8	13 1/4
182 -184T	40T	1/8	3/4	3 5/8	12 7/8	14 3/4	14 5/8	15 3/4
213 -215T	50T	1/8	1 3/8	5 1/2	15 7/8	17 3/8	17 7/8	20
254 -256T	60T	1/8	1	5 7/8	20 5/8	22 1/2	22 1/2	25 1/2
284 -286T	70T	1/8	1 1/2	6 3/8	23 1/2	25 1/8	25 3/8	28 3/8
284TS-286TS	70T	1/8	1 1/2	6 1/2	22 1/8	23 3/4	24 1/8	27 1/8
324 -326T	80T	1/8	1	6 3/4	26 1/8	27 3/4	28 1/4	31 7/8
324TS-326TS	80T	1/8	1	6 3/4	24 5/8	26 1/8	26 3/4	30 3/8
364 -365T	90T	1/8	1 1/8	7	28 1/4	29 7/8	32 1/2	34 1/8
364TS-365TS	90T	1/8	1 5/8	7	26 5/8	27 5/8	30 3/8	32
404 -405T	90T	1/8	2 3/8	8 3/4	32 5/8	34 1/4	37 3/8	39
404TS-405TS	90T	1/8	2 3/8	8 3/4	29 5/8	31 1/4	34 3/8	36
444 -445T	100T	3/16	1 5/8	9 3/8	37 3/8	40	42	45 1/8
444TS-445TS	100T	3/16	2 1/8	9 3/8	34 1/8	36 1/4	38 3/8	41 3/8

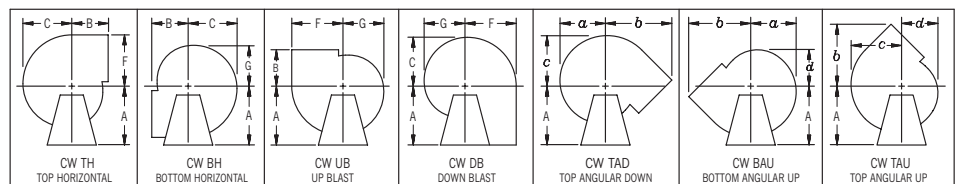
*H-H and O-O based on several major motor manufacturers—consult **nyb** for exact dimensions. Dimensions not to be used for construction unless certified.



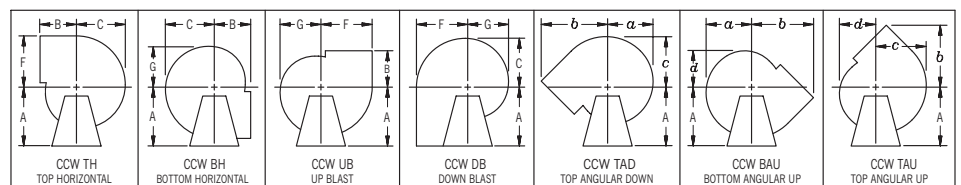
ANGULAR DISCHARGE DIMENSIONS [INCHES]

Size	a	b		c	d
		BAU TAU	TAD		
18	17 1/4	23 5/8	23 5/8	19 1/4	13 7/8
22	21 1/8	28 3/4	28 3/4	23 1/4	16 7/8
24	23 1/8	31 7/8	31 7/8	25 3/4	18 1/2
27	25 1/2	34 3/4	34 3/4	28 3/8	20 1/2
30	28 3/8	38 3/8	38 3/8	31 1/2	22 3/4
33	31 1/4	42 1/8	42 1/8	34 5/8	25 1/4
36	34 1/2	47 7/8	56 1/4	38 1/4	27 1/2
40	38	52 3/4	61 3/8	42 1/4	30
44	42 1/8	57 1/4	67 1/8	46 5/8	33 3/4
49	46 1/4	61 5/8	73 5/8	51 3/8	36 5/8
54	51 1/4	68 7/8	80 7/8	56 7/8	41 1/8
60	56 5/8	75 1/2	89 3/8	61 7/8	45 3/8
66	62 3/8	82 3/4	97 7/8	69 1/8	50
73	68 7/8	91 1/8	107 1/2	76 1/2	55 1/4

FAN DISCHARGES – VIEWED FROM DRIVE SIDE



Clockwise—angular discharges at 45°



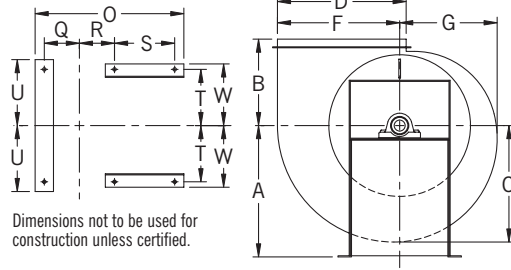
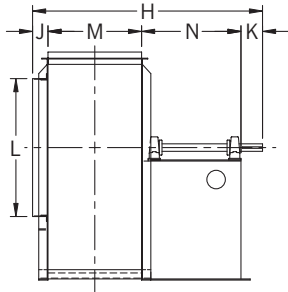
Counterclockwise—angular discharges at 45°

Down Blast and Top Angular Down discharge positions must be evaluated for clearance of accessories such as flanged outlet, outlet damper, unitary base, etc. Consult **nyb** with specific details.

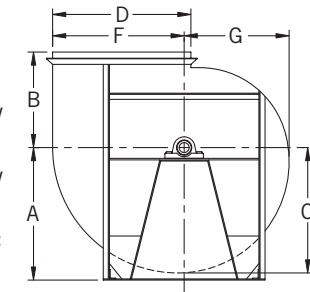
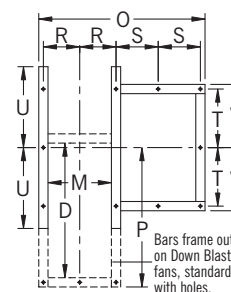
ARRANGEMENT 1

SIZES 18 TO 33

SIZES 36 TO 73



Dimensions not to be used for construction unless certified.



Bars frame outlet on Down Blast fans, standard with holes.

DIMENSIONS [INCHES]

Size	A				B		C	D	E	F	G	H	J	K	L	M	N	O	Q		R	S	T	U	W	Key	Base holes
	TH TAD	BH BAU	UB TAU	DB	*	TAD													P	P							
18	21 3/4	21 3/4	21 3/4	21 3/4	14	14	18 1/2	20 1/2	11 3/4	19 3/8	15 1/2	35 1/2	3 1/8	4 1/2	20 3/4	13 7/8	14	31 1/8	8 3/4	8 1/2	10 7/8	9 3/8	10 7/8	10 7/8	10 1/4	3/8	9/16
22	26	26	26	26	17	17	22 1/2	24 7/8	14 3/8	23 5/8	18 7/8	43 1/2	3 3/8	5	25 1/8	16 7/8	18 1/2	38 5/8	10 1/4	10	15 3/8	10 7/8	12 5/8	11 3/4	1/2	9/16	
24	28 5/8	28 5/8	28 5/8	28 5/8	19	19	24 3/4	27 3/8	15 3/4	26	20 3/4	47 5/8	4 1/8	5 1/2	27 5/8	18 1/2	19 1/2	42 1/4	11 1/2	11 3/8	15 3/8	12 1/4	14 3/8	13 1/2	1/2	3/4	
27	31 1/8	31 1/8	31 1/8	31 1/8	20 1/2	20 1/2	27 1/4	30 1/4	17 3/8	28 5/8	22 7/8	52	4 3/8	6	30 1/4	20 3/8	21 1/2	46 1/8	12 1/2	12 1/4	17 3/8	13 5/8	15 1/2	14 7/8	5/8	3/4	
30	34 3/4	34 3/4	34 3/4	34 3/4	22 1/2	22 1/2	30 3/8	33 1/2	19 3/8	31 7/8	25 3/8	57 1/4	4 3/8	6 1/2	33 5/8	22 5/8	24	50 7/8	13 5/8	13 3/8	19 7/8	14 7/8	16 7/8	16 1/8	5/8	3/4	
33	37 3/4	37 3/4	37 3/4	37 3/4	24 1/2	24 1/2	33 3/8	36 7/8	21 1/4	35	28	62 1/2	4 3/8	7	36 7/8	24 7/8	26 1/2	55 5/8	14 3/4	14 1/2	22 3/8	16	18 1/4	17 1/4	5/8	3/4	
36	33	42	39	29	29	41 3/4	36 7/8	40 3/4	23 1/2	38 3/4	30 7/8	67	5	7 1/2	41	27 1/2	27	60 1/2	40 1/4	15 1/4	13 1/2	17 1/2	24 1/2	19	3/4	7/8	
40	36	46	43	31	31	45 1/4	40 3/4	44 7/8	26	42 3/4	34 1/8	73 3/8	5	8	44 3/4	30 3/8	30	66 3/8	44 1/4	16 3/4	15	19	26 1/4	20 1/2	7/8	7/8	
44	40	50	47	33 1/2	33 1/2	49	45	49 5/8	28 5/8	47 1/8	37 3/4	80	5	8 1/2	49 3/4	33 1/2	33	72 1/2	48 5/8	18 1/4	16 1/2	21	28 3/4	22 1/2	7/8	7/8	
49	43 1/2	55	51 1/2	36	36	53 1/4	49 1/2	54 5/8	31 5/8	52	41 1/2	86 7/8	5	9	54 3/4	36 7/8	36	78 7/8	53 1/2	20	18	23	31 1/4	24 1/2	1	7/8	
54	48	60 1/2	57	40	40	58 3/4	54 7/8	60 3/8	35	57 1/2	45 7/8	96 1/4	6	9 1/2	60 1/4	40 3/4	40	88 3/4	59 1/2	22 3/8	20	25	35	27	1	1	
60	53	66 1/2	62 1/2	43	43	64 1/2	60 3/4	66 7/8	38 3/4	63 3/4	50 7/8	106	6	10	67	45	45	98	65 3/4	24 1/2	22 1/2	26 1/2	38 1/2	28 1/2	1	1	
66	58	73	69	47	47	70 1/4	66 3/4	73 1/2	42 5/8	70	56	116	7	10 1/2	73 1/2	49 1/2	49	108 1/2	72 1/2	27 1/4	24 1/2	29	42 1/4	31 1/2	1 1/4	1	
73	64	80 1/2	76	51 1/2	51 1/2	76 1/2	73 7/8	81 1/4	47 1/8	77 1/2	61 7/8	126 3/4	7	11	81 1/2	54 3/4	54	118 3/4	80	29 7/8	27	33 1/2	46 1/4	36	1 1/4	1	

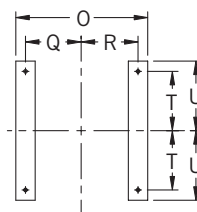
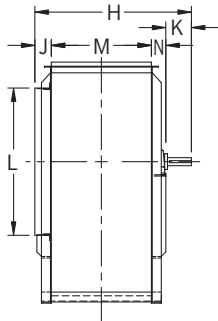
* For TH, BH, UB, DB, BAU, and TAU discharges.

Tolerance: ± 1/8"

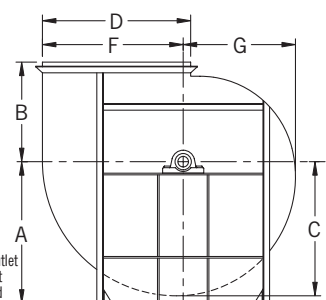
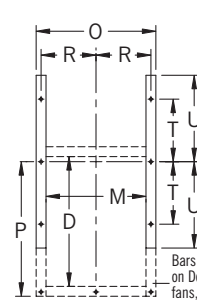
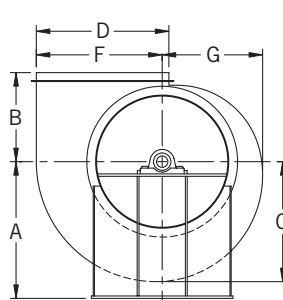
ARRANGEMENT 3

SIZES 30 AND 33

SIZES 36 TO 73



Dimensions not to be used for construction unless certified.



Bars frame outlet on Down Blast fans, standard with holes.

DIMENSIONS [INCHES]

Size	A				B		C	D	E	F	G	H	J	K	L	M	N	O	Q		R	S	U	Key	Base holes
	TH TAD	BH BAU	UB TAU	DB	*	TAD													P	P					
30	33 3/4	33 3/4	33 3/4	33 3/4	22 1/2	22 1/2	30 3/8	33 1/2	19 3/8	31 7/8	25 3/8	37	4 1/8	6 1/2	33 5/8	22 5/8	33 1/4	31 1/4	13 5/8	13 5/8	14 7/8	16 7/8	1/2	3/4	
33	37	37	37	37	24 1/2	24 1/2	33 3/4	36 7/8	21 1/4	35	28	41 1/4	5 1/8	7	36 7/8	24 7/8	41 1/4	33 1/2	14 3/4	14 3/4	16	18 1/4	1/2	3/4	
36	33	42	39	29	29	41 3/4	36 7/8	40 3/4	23 1/2	38 3/4	30 7/8	45 1/4	6	7 1/2	41	27 1/2	41 1/4	33 1/2	40 3/4	15 1/4	17 1/2	24 1/2	5/8	7/8	
40	36	46	43	31	31	45 1/4	40 3/4	44 7/8	26	42 3/4	34 1/8	49 7/8	7	8	44 3/4	30 3/8	41 1/2	36 3/8	44 1/4	16 3/4	19	26 1/4	5/8	7/8	
44	40	50	47	33 1/2	33 1/2	49	45	49 5/8	28 5/8	47 1/8	37 3/4	53 1/2	7	8 1/2	49 3/4	33 1/2	41 1/2	39 1/2	48 5/8	18 1/4	21	28 3/4	3/4	7/8	
49	43 1/2	55	51 1/2	36	36	53 1/4	49 1/2	54 5/8	31 5/8	52	41 1/2	57 7/8	7	9	54 3/4	36 7/8	5	42 7/8	53 1/2	20	23	31 1/4	3/4	7/8	
54	48	60 1/2	57	40	40	58 3/4	54 7/8	60 3/8	35	57 1/2	45 7/8	62 1/2	7	9 1/2	60 1/4	40 3/4	51 1/4	48 3/4	59 1/2	22 3/8	25	35	27	1	1
60	53	66 1/2	62 1/2	43	43	64 1/2	60 3/4	66 7/8	38 3/4	63 3/4	50 7/8	67 5/8	7	10	67	45	55 5/8	53	65 3/4	24 1/2	26 1/2	38 1/2	1	1	
66	58	73	69	47	47	70 1/4	66 3/4	73 1/2	42 5/8	70	56	72 5/8	7	10 1/2	73 1/2	49 1/2	49 1/2	59 1/2	72 1/2	27 1/4	29	42 1/4	1	1	
73	64	80 1/2	76	51 1/2	51 1/2	76 1/2	73 7/8	81 1/4	47 1/8	77 1/2	61 7/8	81 3/4	9	11	81 1/2	54 3/4	7	64 3/4	80	29 7/8	33 1/2	46 1/4	1	1	

* For TH, BH, UB, DB, BAU, and TAU discharges.

Tolerance: ± 1/8"