

**TOSOT**

# UNITARY SIDE DISCHARGE SPLIT SYSTEM 24VAC CONTROL

**30,000 BTU / H UNITARY HEAT PUMP SPLIT SYSTEM**

## SUBMITTAL DATA: TUD30AH2/D-D(U) / TUD30W2/D-D(U)

Job Name	Location	Date
Purchaser	Engineer	
Submitted To	For	<input type="checkbox"/> Reference <input type="checkbox"/> Approval <input type="checkbox"/> Construction
Unit Designation	Schedule No.	

**SYSTEM TYPE:  
HEAT PUMP**



TUD30W2/D-D(U)



TUD30AH2/D-D(U)

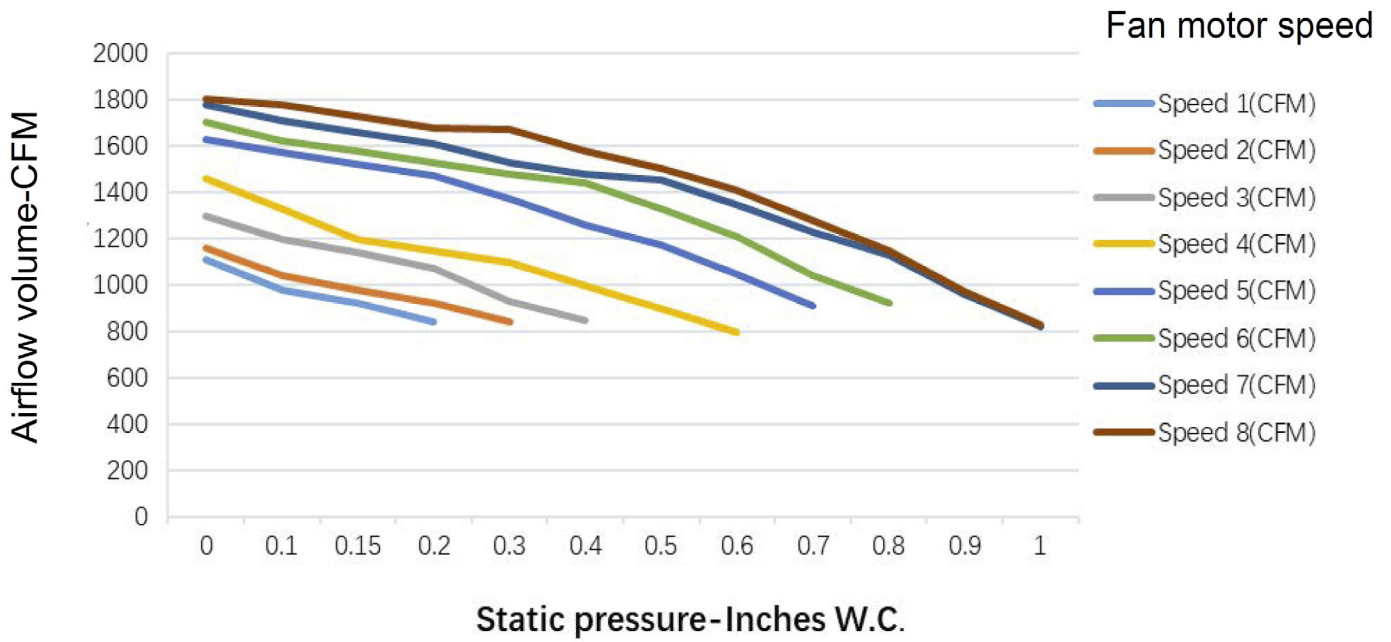
### GENERAL FEATURES

- High Efficiency DC Inverter Technology
- Universal 24V communication
- Flexible installation and space saving
- Match with TOSOT or Competitive Indoor Unit
- Designed for New Construction or Replacement Market
- High efficiency airfoil blade, Low noise design
- 8 Speed Fan Motor
- Low Ambient Cooling down to 5°F(-15°C)
- Low Ambient Heating down to 5°F(-15°C)
- Indoor Coil has /Aluminum Fin with Acetal-Resin Coating (Blue Fin - 500Hr Salt Spray Rating)
- Designed for both commercial and residential use

SYSTEM PERFORMANCE			
Cooling	Rated Capacity @ 95°F	Btu/h	28,600
	Min-Max Capacity	Btu/h	7,600-28,600
Heating	Rated Capacity @ 47°F	Btu/h	28,600
	Min-Max Capacity	Btu/h	6,800-28,600
AHRI Number			211078854
SEER2 / EER2			15.2 / 10
HSPF2			7.8
COP			2.93
Cooling Temperature Range		*F	5 - 114.8
Heating Temperature Range		*F	5 - 75.2
INDOOR UNIT		TUD30AH2/D-D(U)	
Fan Motor Output Power		Horsepower	1/2
Fan Motor FLA		AMPS	2.5
Air Flow(Rated)		CFM	900
Static Pressure (Rated / Maximum)		In w.c	0.1 / 1.0
Sound Pressure Level (Cooling / Heating)		dB(A)	51
Dehumidification		pt/hr	7.52
Condensate Drain Size (OD)		in	3 / 4
Unit Dimension (WxHxD)		in	18-1/8 x 21-1/4 x 43-1/2
Package Dimension (WxHxD)		in	
Weight (Net / Gross)		lbs	125.7 / 134.5
Electric Heater (Optional)		kW	5, 8
Coil Type (Blue Fin)		Copper Tube / Aluminum Fin	
OUTDOOR UNIT		TUD30W2/D-D(U)	
Compressor Type		Inverter Rotary	
Compressor RLA		AMPS	
Fan Motor Output Power		Horsepower	1/12
Fan Motor		AMPS	1.5
Sound Pressure Level (Cooling / Heating)		dB(A)	56
Unit Dimension (WxHxD)		in	35x13-3/8x25-7/8
Package Dimension (WxHxD)		in	
Weight (Net / Gross)		lbs	119 / 127.9
Refrigerant Charge - R410A		oz	77.6
Coil Type (Golden Fin)		Copper Tube / Aluminum Fin	
REFRIGERANT PIPING			
Line Set Size (Liquid - Gas)		in	3/8 - 3/4
Pre-Charge Length		ft	25
Additional Charge		oz/ft	0.32
Pipe Length (Min - Max)		ft	10 - 98.5
Max. Pipe Elevation		ft	49.2
ELECTRICAL			
Power Supply (Voltage Operating Range)		208/230V / 1Ph / 60 Hz	
Outdoor Unit	Rated Current (Cooling / Heating)	AMPS	
	MCA / MOCP	AMPS	25 / 35
Indoor Unit	Rated Current (Cooling / Heating)	AMPS	
	MCA / MOCP	AMPS	3 / 15
Main Power Wire Size		AWG	Size Per Local Code



**FAN PERFORMANCE: TUD30AH2/D-D(U)**



Static Pressure Inches W.C.	0	0.1	0.15	0.2	0.3	0.4	0.5	0.6	0.7	0.8	0.9	1
Speed 1-CFM												
Speed 2-CFM												
Speed 3-CFM												
Speed 4-CFM												
Speed 5-CFM												
Speed 6-CFM												
Speed 7-CFM												
Speed 8-CFM												

**TOSOT****FEATURES SUMMARY: TUD30AH2/D-D(U) / TUD30W2/D-D(U)**

SYSTEM FEATURES	
Compressor	Inverter
Ultra Low Frequency Torque Control	YES
Power Factor Correction	YES
Compressor Type	Rotary
Refrigerant Type	R410A
Outdoor Electronic Expansion Valve (EEV)	YES
Indoor TXV Control	YES
Basepan With Electric Heater	YES
Compressor With Electric Heater	YES
Fin Coating (Outdoor - Golden & Indoor - Blue)	Acrylic Resin
Intelligent Defrosting	YES
Intelligent Preheating	YES
Low Voltage Startup	YES
Memory/Power Failure Recovery	YES
Self Diagnosis	YES
Low Ambient Cooling	YES
24VAC Thermostat Compatible	YES
Indoor Fan Type	Centrifugal
Multi Fan Speeds	8
Auxiliary Electrical Heater	Optional



## EXTENDED RATINGS: TUD30AH2/D-D(U) / TUD30W2/D-D(U)

COOLING PERFORMANCE																
Outdoor Ambient Temperature (DB)	Return Air Temperature															
	70°F (DB) / 59°F (WB)					75°F (DB) / 63°F (WB)					80°F (DB) / 67°F (WB)					
	TC (Btu/h)	SC (Btu/h)	SHR	EER	Power Input (W)	TC (Btu/h)	SC (Btu/h)	SHR	EER (Btu/(h·W))	Power Input (W)	TC (Btu/h)	SC (Btu/h)	SHR	EER (Btu/(h·W))	Power Input (W)	
<b>MAX OUTPUT*</b>	5°F	24,310	17,017	70%	11.46	2,122	26,450	18,515	70%	12.30	2,150	28,600	20,020	70%	13.05	2,192
	10°F	24,310	17,017	70%	11.25	2,160	26,450	18,515	70%	12.08	2,190	28,600	20,020	70%	12.83	2,230
	15°F	24,310	17,017	70%	11.20	2,170	26,450	18,515	70%	12.00	2,205	28,600	20,020	70%	12.77	2,240
	20°F	24,310	17,017	70%	11.15	2,180	26,450	18,515	70%	11.97	2,210	28,600	20,020	70%	12.71	2,250
	25°F	24,310	17,017	70%	11.10	2,190	26,450	18,515	70%	11.91	2,220	28,600	20,020	70%	12.65	2,260
	30°F	24,310	17,017	70%	11.05	2,200	26,450	18,515	70%	11.86	2,230	28,600	20,020	70%	12.60	2,270
	35°F	24,310	17,017	70%	10.95	2,220	26,450	18,515	70%	11.76	2,250	28,600	20,020	70%	12.49	2,290
	40°F	24,310	17,017	70%	10.85	2,240	26,450	18,515	70%	11.65	2,270	28,600	20,020	70%	12.38	2,310
	45°F	24,310	17,017	70%	10.76	2,260	26,450	18,515	70%	11.55	2,290	28,600	20,020	70%	12.27	2,330
	50°F	24,310	17,017	70%	10.62	2,290	26,450	18,515	70%	11.40	2,320	28,600	20,020	70%	12.12	2,360
	55°F	24,310	17,017	70%	10.48	2,320	26,450	18,515	70%	11.26	2,350	28,600	20,020	70%	11.97	2,390
	60°F	24,310	17,017	70%	10.34	2,350	26,450	18,515	70%	11.11	2,380	28,600	20,020	70%	11.82	2,420
	65°F	25,230	17,910	71%	10.60	2,380	27,115	19,105	70%	11.25	2,410	29,000	20,300	70%	11.84	2,450
	70°F	26,700	19,000	71%	11.08	2,410	28,350	20,080	71%	11.62	2,440	30,000	21,130	70%	12.10	2,480
	75°F	26,700	19,080	71%	11.13	2,400	28,350	20,260	71%	11.67	2,430	30,000	21,250	71%	12.15	2,470
	80°F	26,700	19,100	72%	11.17	2,390	28,350	20,300	72%	11.71	2,420	30,000	21,270	71%	12.20	2,460
	85°F	25,740	18,570	72%	10.17	2,530	27,170	19,550	72%	10.61	2,560	28,600	20,540	72%	11.26	2,540
	90°F	25,740	18,600	72%	9.68	2,660	27,170	19,650	72%	10.06	2,700	28,600	20,670	72%	10.55	2,710
	95°F	25,740	18,720	73%	9.23	2,790	27,170	19,760	73%	9.61	2,825	28,600	20,800	73%	10.00	2,860
	100°F	25,100	18,740	75%	8.73	2,875	26,320	19,640	75%	9.04	2,910	27,550	20,550	75%	9.35	2,945
105°F	24,400	18,760	77%	8.24	2,960	25,480	19,730	77%	8.51	2,995	26,500	20,300	77%	8.75	3,030	
110°F	23,900	18,870	79%	7.85	3,045	24,730	19,400	78%	8.03	3,080	25,550	20,050	78%	8.20	3,115	
115°F	23,275	18,810	81%	7.44	3,130	23,900	19,300	81%	7.55	3,165	24,500	19,800	81%	7.66	3,200	

\*Maximum Output values are not based on AHRI test conditions

<b>LEGEND:</b>	<b>W - Watts</b>
	<b>DB - Dry Bulb</b>
	<b>TC - Total Capacity</b>
	<b>SC - Sensible Capacity</b>
	<b>SHR - Sensible Heat Ratio</b>
	<b>COP - Coefficient of Performance</b>



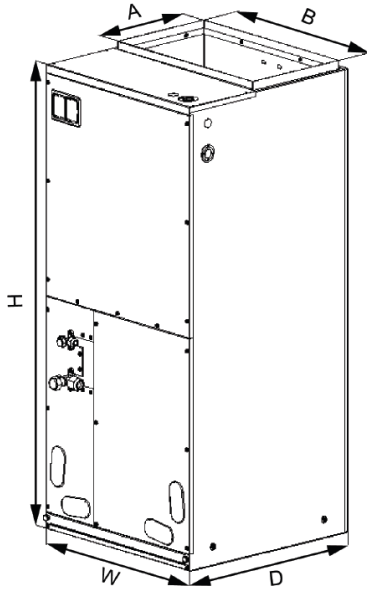
## EXTENDED RATINGS: TUD30AH2/D-D(U) / TUD30W2/D-D(U)

HEATING PERFORMANCE										
Outdoor Ambient Temperature (DB)	Return Air Temperature									
	70°F (DB) / 59°F (WB)			75°F (DB) / 63°F (WB)			80°F (DB) / 67°F (WB)			
	TC (Btu/h)	COP (W/W)	Power Input (W)	TC (Btu/h)	COP (W/W)	SHR Power Input (W)	TC (Btu/h)	COP (W/W)	Power Input (W)	
<b>MAX OUTPUT*</b>	5°F	16,100	1.76	2,680	14,890	1.62	2,690	13,680	1.48	2,710
	10°F	16,830	1.83	2,700	15,710	1.69	2,720	14,600	1.56	2,740
	15°F	17,660	1.90	2,720	16,640	1.78	2,745	15,620	1.65	2,770
	17°F	18,600	2.00	2,730	17,670	1.88	2,760	16,740	1.76	2,790
	20°F	19,650	2.30	2,500	18,670	2.16	2,530	17,685	2.02	2,560
	25°F	20,830	2.40	2,540	19,980	2.27	2,575	19,130	2.15	2,610
	30°F	22,110	2.52	2,570	21,400	2.40	2,610	20,670	2.29	2,650
	35°F	23,500	2.66	2,592	22,910	2.55	2,635	22,320	2.44	2,680
	40°F	25,000	2.73	2,688	24,500	2.63	2,731	24,000	2.53	2,776
	45°F	26,800	2.83	2,774	26,260	2.73	2,818	25,720	2.64	2,860
	47°F	28,600	2.94	2,850	28,310	2.87	2,895	28,030	2.79	2,940
	50°F	29,360	3.00	2,870	29,100	2.93	2,915	28,880	2.86	2,960
	55°F	30,130	3.06	2,890	29,900	2.99	2,935	29,730	2.92	2,980
	60°F	31,000	3.12	2,910	30,840	3.07	2,940	30,690	3.03	2,970
	65°F	31,000	3.29	2,765	30,840	3.24	2,793	30,690	3.19	2,820
70°F	31,000	3.46	2,625	30,840	3.41	2,650	30,690	3.36	2,680	
75°F	31,000	3.65	2,490	30,840	3.59	2,520	30,690	3.54	2,540	

\*Maximum Output values are not based on AHRI test conditions

<b>LEGEND:</b>	<b>W - Watts</b>
	<b>DB - Dry Bulb</b>
	<b>TC - Total Capacity</b>
	<b>SC - Sensible Capacity</b>
	<b>SHR - Sensible Heat Ratio</b>
	<b>COP - Coefficient of Performance</b>

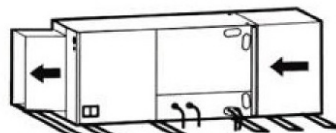
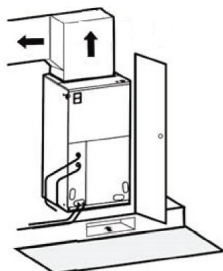
## DIMENSIONS & CLEARANCES: TUD30AH2/D-D(U)



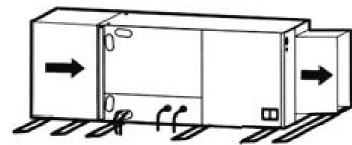
Dimensions	
A	11 5/8
B	16-3/4
H	43-1/2
W	18-1/8
D	21 1/4

Filter Size	
Supplied*	17 x 20 x 1/2
*Supplied filter is metal mesh	

Clearances	
Front	> 24
<p>Allow a minimum of 24" in front of the unit for service clearance. When installing in an area directly over a finished ceiling (such as an attic), an emergency drain pan is required directly under the unit. See local and state codes for requirements. When installing this unit in an area that may become wet, elevate the unit with a sturdy, non-porous material. In installations that may lead to physical damage (i.e. a garage) it is advised to install a protective barrier to prevent such damage. This air handler is designed for a complete supply and return ductwork system.</p>	
Multi-Position Capabilities	

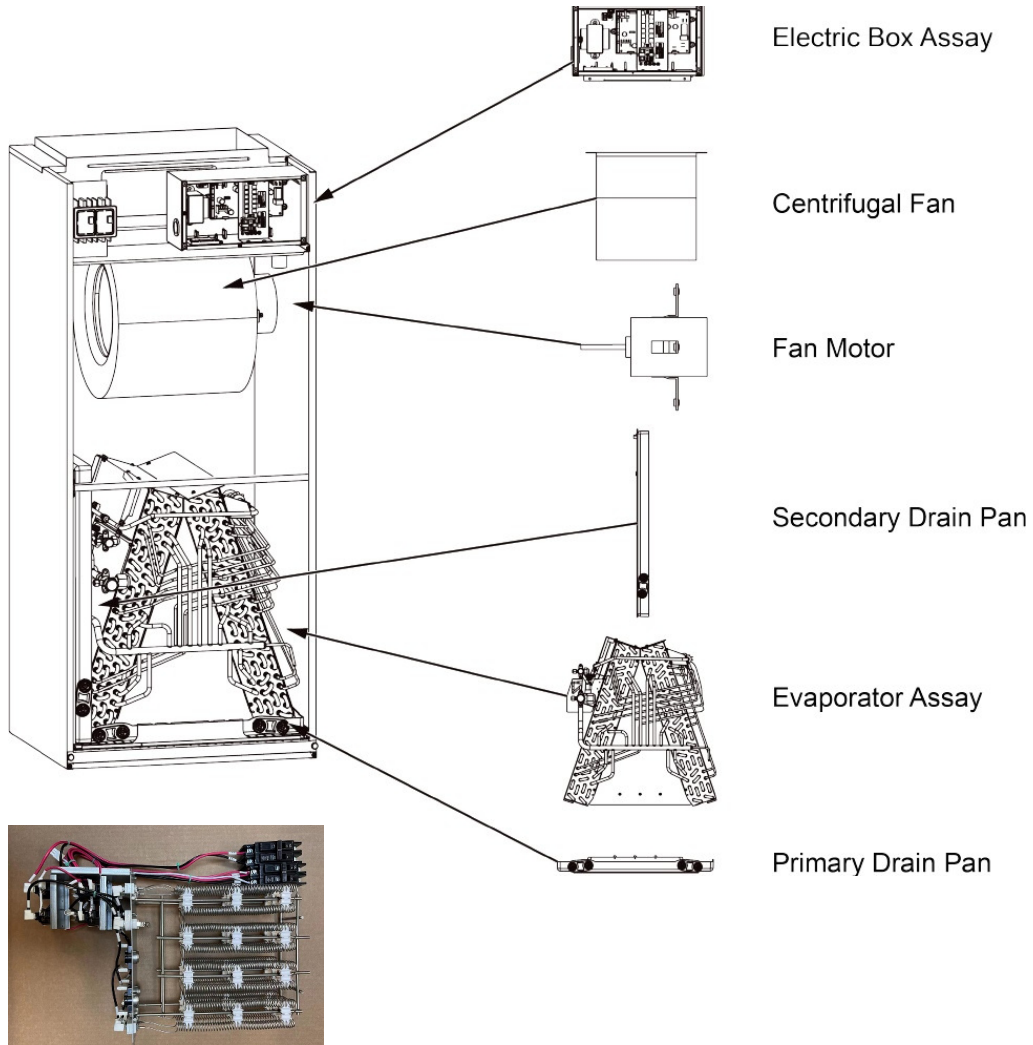


Horizontal Left Configuration - No Modification Needed



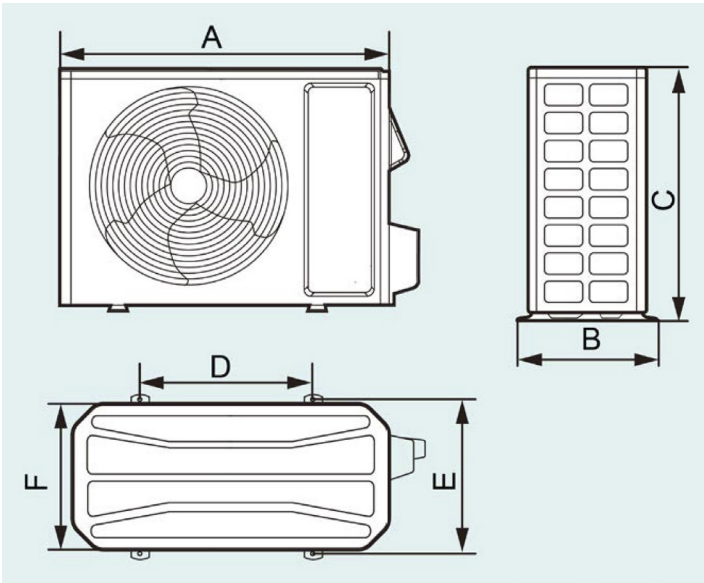
Horizontal Right Configuration - Must Relocate Drain Pan

## ACCESSORY HEATER AND GENERAL INFORMATION: TUD30AH2/D-D(U)

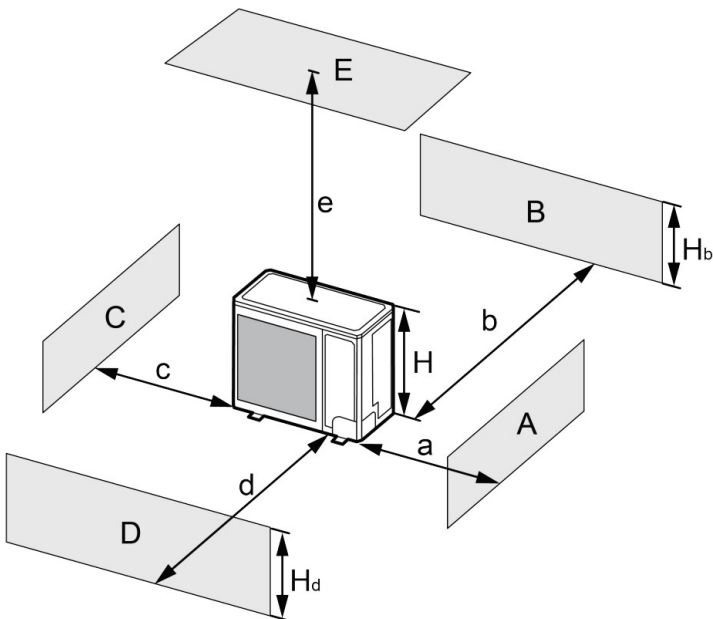


Model	Heat Kit Model	Electric Heat (kW)		Min. Circuit		Max.Fuse or Breaker	
		240V	208V	240V	208V	240V	208V
TUD30AH2/D-D(U)	TUD-Heat Kit-5KW	5	3.76	26	22.6	30	25
	TUD-HEAT KIT-8KW	8	6	41.7	36	45	40

**DIMENSIONS & CLEARANCES: TUD30W2/D-D(U)**



Dimensions	
A	36-5/16
B	16-13/16
C	29-3/8
D	24
E	15-9/16
F	14-9/16



A-E	H <sub>b</sub>	H <sub>d</sub>	H	(in)					
				a	b	c	d	e	
B	—	—	—	≥ 4	-	-	-	-	
A,B,C	—	—	—	≥ 12	≥ 4	≥ 4	-	-	
B,E	—	—	—	-	≥ 4	-	-	≥ 40	
A,B,C,E	—	—	—	≥ 12	≥ 6	≥ 6	-	≥ 40	
D	—	—	—	-	-	-	≥ 40	-	
D,E	—	—	—	-	-	-	≥ 40	≥ 40	
B,D	H <sub>b</sub> < H <sub>d</sub>	H <sub>d</sub> > H	-	≥ 4	-	≥ 40	-	-	
	H <sub>b</sub> > H <sub>d</sub>	H <sub>d</sub> < H	-	≥ 4	-	≥ 40	-	-	
B,D,E	H <sub>b</sub> < H <sub>d</sub>	H <sub>b</sub> ≤ 1/2H	-	≥ 10	-	≥ 80	≥ 40	-	
		1/2H < H <sub>b</sub> ≤ H	-	≥ 10	-	≥ 80	≥ 40	-	
	H <sub>b</sub> > H Prohibited								
	H <sub>b</sub> > H <sub>d</sub>	H <sub>d</sub> ≤ 1/2H	-	≥ 4	-	≥ 80	≥ 40	-	-
		1/2H < H <sub>d</sub> ≤ H	-	≥ 8	-	≥ 80	≥ 40	-	-
H <sub>d</sub> > H Prohibited									