

**Type: Hermetic scroll compressors**

**Producer: Copeland**

**Series: ZB**

## Model: ZB19KCE-TFD

### Technical data

Displacement [m <sup>3</sup> /h]:	6,8
Sound power [dBA]:	66
Sound pressure level [dB]:	55
Net Weight [kg]:	27,2
Oil charge [dm <sup>3</sup> ]:	1,5
Maximum high pressure [bar]:	28,8
Maximum standstill pressure [bar]:	21
Minimal lowside temperature [°C]:	-35
Maximum lowside temperature [°C]:	50
PED category:	1

### Electrical data

Power supply [V/~/Hz]:	380-420V/3/50Hz
Locked rotor current [A]:	32
Max. operating current [A]:	6,5
Winding resistance [Ω]:	5,9

### Connections

Suction Rotolock valve connection:	<u>inches</u> 1 1/4"
Discharge Rotolock valve connection:	1"

R134a

**Cooling capacity [kW]**

$t_c \setminus t_e$	-20	-15	-10	-5	0	5	10	15
30	1.62	2.10	2.71	3.45	4.32	5.30	6.40	-
35	1.53	1.98	2.56	3.27	4.09	5.02	6.06	-
40	1.44	1.87	2.42	3.09	3.87	4.75	5.74	6.83
45	-	1.76	2.28	2.91	3.65	4.49	5.42	6.45
50	-	1.65	2.14	2.74	3.43	4.22	5.10	6.07
55	-	-	2.00	2.56	3.21	3.95	4.78	5.69
60	-	-	-	2.36	2.98	3.67	4.45	5.30
65	-	-	-	2.16	2.73	3.38	4.11	4.90
70	-	-	-	-	2.47	3.08	3.75	4.49
75	-	-	-	-	2.19	2.75	3.38	4.06

**Power input [kW]**

$t_c \setminus t_e$	-20	-15	-10	-5	0	5	10	15
30	0.89	0.90	0.90	0.89	0.87	0.85	0.84	-
35	1.00	1.02	1.02	1.01	1.00	0.99	0.98	-
40	1.12	1.14	1.15	1.15	1.13	1.12	1.11	1.11
45	-	1.28	1.29	1.29	1.28	1.27	1.26	1.25
50	-	1.44	1.45	1.45	1.44	1.42	1.41	1.40
55	-	-	1.63	1.63	1.61	1.60	1.58	1.57
60	-	-	-	1.83	1.81	1.79	1.77	1.75
65	-	-	-	2.05	2.03	2.00	1.98	1.95
70	-	-	-	-	2.28	2.25	2.21	2.18
75	-	-	-	-	2.57	2.53	2.48	2.44

### Current [A]

$t_c \setminus t_e$	-20	-15	-10	-5	0	5	10	15
<b>30</b>	2.40	2.44	2.45	2.44	2.42	2.40	2.38	-
<b>35</b>	2.50	2.54	2.55	2.55	2.53	2.52	2.51	-
<b>40</b>	2.61	2.66	2.67	2.67	2.66	2.65	2.64	2.64
<b>45</b>	-	2.80	2.82	2.82	2.81	2.79	2.78	2.78
<b>50</b>	-	2.98	3.00	2.99	2.98	2.96	2.95	2.95
<b>55</b>	-	-	3.21	3.20	3.19	3.16	3.15	3.14
<b>60</b>	-	-	-	3.46	3.43	3.40	3.38	3.36
<b>65</b>	-	-	-	3.76	3.73	3.69	3.65	3.63
<b>70</b>	-	-	-	-	4.07	4.02	3.97	3.94
<b>75</b>	-	-	-	-	4.48	4.42	4.35	4.30

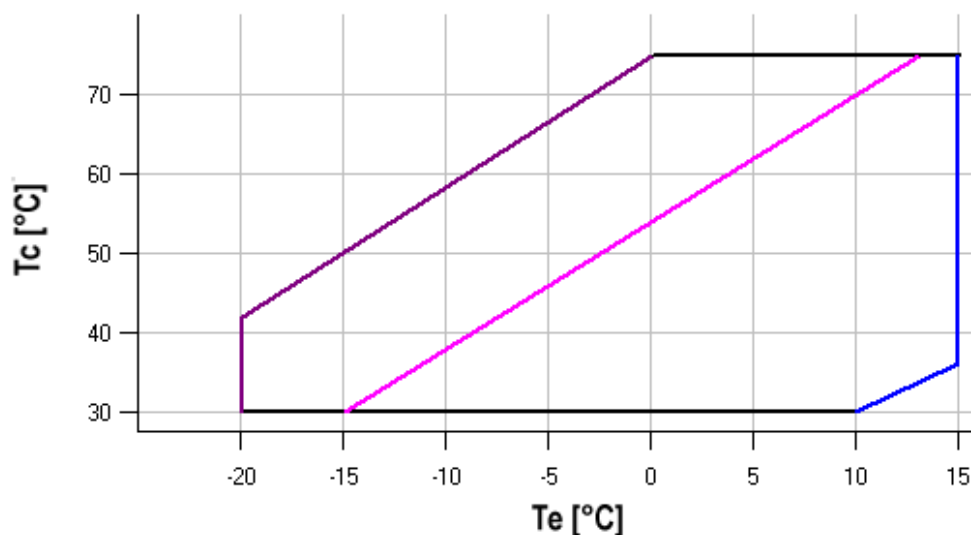
### Mass flow [kg/h]

$t_c \setminus t_e$	-20	-15	-10	-5	0	5	10	15
<b>30</b>	32.45	42.63	55.42	70.89	89.15	110.26	134.32	-
<b>35</b>	32.05	42.11	54.76	70.09	88.17	109.10	132.96	-
<b>40</b>	31.59	41.58	54.15	69.38	87.35	108.15	131.86	158.57
<b>45</b>	-	40.95	53.48	68.66	86.57	107.29	130.90	157.50
<b>50</b>	-	40.09	52.64	67.82	85.72	106.41	129.98	156.51
<b>55</b>	-	-	51.53	66.76	84.69	105.40	128.98	155.51
<b>60</b>	-	-	-	65.36	83.38	104.17	127.80	154.37
<b>65</b>	-	-	-	63.53	81.68	102.59	126.33	152.99
<b>70</b>	-	-	-	-	79.48	100.57	124.47	151.27
<b>75</b>	-	-	-	-	76.68	97.98	122.09	149.09

**C.O.P. [W/W]**

$t_c \setminus t_e$	-20	-15	-10	-5	0	5	10	15
<b>30</b>	1.82	2.33	3.02	3.90	4.97	6.21	7.59	-
<b>35</b>	1.53	1.95	2.52	3.23	4.09	5.10	6.21	-
<b>40</b>	1.29	1.64	2.11	2.70	3.41	4.24	5.16	6.15
<b>45</b>	-	1.38	1.77	2.26	2.85	3.54	4.32	5.15
<b>50</b>	-	1.15	1.48	1.89	2.39	2.97	3.62	4.33
<b>55</b>	-	-	1.23	1.57	1.99	2.48	3.03	3.63
<b>60</b>	-	-	-	1.30	1.65	2.05	2.52	3.03
<b>65</b>	-	-	-	1.05	1.35	1.69	2.08	2.51
<b>70</b>	-	-	-	-	1.08	1.37	1.69	2.06
<b>75</b>	-	-	-	-	0.85	1.09	1.36	1.66

**Application range**



- Maximum evaporating temperature
- 25°C suction gas temperature
- 10K gas overheat

Operating conditions: suction gas temperature 20°C, 0K subcooling

$t_c$  - Condensing temperature [°C]

$t_e$  - Evaporating temperature [°C]

R404A/R507

**Cooling capacity [kW]**

$t_c \setminus t_e$	-30	-25	-20	-15	-10	-5	0	5	10
<b>10</b>	2.88	3.58	4.41	5.40	-	-	-	-	-
<b>15</b>	2.75	3.42	4.21	5.15	6.24	-	-	-	-
<b>20</b>	2.62	3.25	4.00	4.89	5.92	7.11	-	-	-
<b>25</b>	2.48	3.08	3.78	4.62	5.58	6.71	8.00	-	-
<b>30</b>	2.33	2.89	3.56	4.34	5.24	6.30	7.51	8.90	10.48
<b>35</b>	2.16	2.70	3.32	4.05	4.89	5.87	7.01	8.31	9.79
<b>40</b>	1.99	2.49	3.07	3.75	4.53	5.44	6.50	7.71	9.09
<b>45</b>	1.80	2.27	2.81	3.43	4.16	5.00	5.97	7.10	8.38
<b>50</b>	-	2.04	2.54	3.11	3.77	4.55	5.44	6.47	7.66
<b>55</b>	-	-	2.25	2.77	3.38	4.08	4.89	5.84	6.93
<b>60</b>	-	-	-	2.42	2.97	3.60	4.33	5.19	6.18

**Power input [kW]**

$t_c \setminus t_e$	-30	-25	-20	-15	-10	-5	0	5	10
<b>10</b>	0.92	0.93	0.92	0.92	-	-	-	-	-
<b>15</b>	1.04	1.04	1.04	1.04	1.04	-	-	-	-
<b>20</b>	1.17	1.17	1.17	1.17	1.17	1.17	-	-	-
<b>25</b>	1.32	1.32	1.32	1.32	1.32	1.31	1.31	-	-
<b>30</b>	1.48	1.49	1.49	1.48	1.48	1.47	1.47	1.47	1.47
<b>35</b>	1.67	1.67	1.67	1.67	1.66	1.65	1.65	1.64	1.64
<b>40</b>	1.88	1.88	1.88	1.88	1.87	1.86	1.85	1.84	1.83
<b>45</b>	2.12	2.12	2.12	2.11	2.10	2.09	2.07	2.06	2.04
<b>50</b>	-	2.38	2.38	2.37	2.36	2.34	2.32	2.30	2.29
<b>55</b>	-	-	2.67	2.66	2.65	2.63	2.60	2.58	2.56
<b>60</b>	-	-	-	2.99	2.97	2.94	2.92	2.89	2.86

### Current [A]

$t_c \setminus t_e$	-30	-25	-20	-15	-10	-5	0	5	10
<b>10</b>	2.86	2.86	2.87	2.86	-	-	-	-	-
<b>15</b>	2.95	2.97	2.98	2.98	2.97	-	-	-	-
<b>20</b>	3.07	3.09	3.10	3.11	3.11	3.09	-	-	-
<b>25</b>	3.21	3.23	3.25	3.26	3.26	3.25	3.22	-	-
<b>30</b>	3.38	3.40	3.42	3.44	3.44	3.44	3.41	3.37	3.30
<b>35</b>	3.60	3.61	3.63	3.65	3.65	3.65	3.63	3.59	3.53
<b>40</b>	3.86	3.87	3.88	3.90	3.90	3.90	3.89	3.85	3.79
<b>45</b>	4.18	4.18	4.19	4.19	4.20	4.20	4.18	4.15	4.10
<b>50</b>	-	4.55	4.55	4.55	4.55	4.54	4.53	4.49	4.44
<b>55</b>	-	-	4.97	4.97	4.96	4.95	4.93	4.89	4.84
<b>60</b>	-	-	-	5.46	5.44	5.42	5.40	5.36	5.30

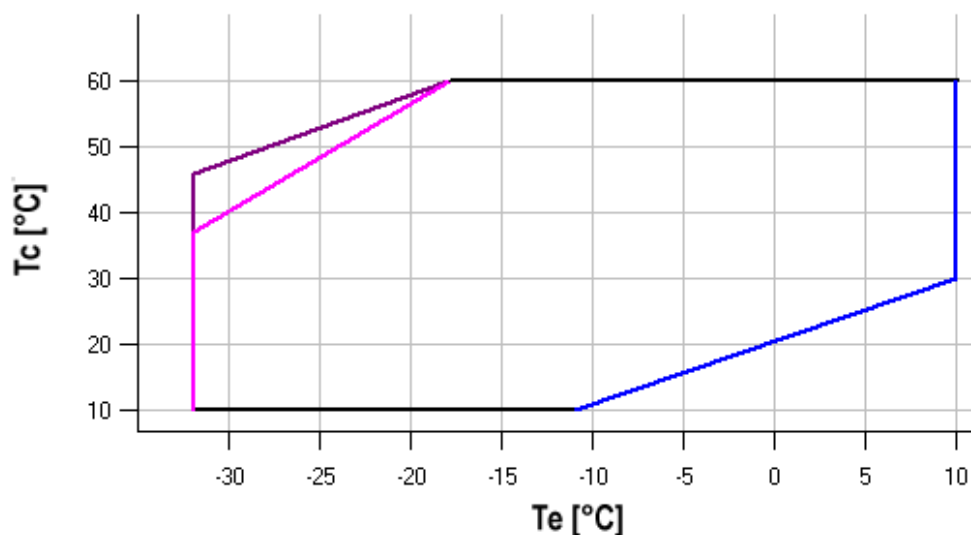
### Mass flow [kg/h]

$t_c \setminus t_e$	-30	-25	-20	-15	-10	-5	0	5	10
<b>10</b>	56.67	72.57	90.56	111.40	-	-	-	-	-
<b>15</b>	57.35	72.80	90.36	110.78	134.87	-	-	-	-
<b>20</b>	57.60	72.65	89.83	109.90	133.65	161.84	-	-	-
<b>25</b>	57.42	72.13	88.99	108.76	132.22	160.16	193.34	-	-
<b>30</b>	56.85	71.27	87.85	107.37	130.60	158.33	191.33	230.37	276.23
<b>35</b>	55.88	70.06	86.42	105.75	128.81	156.38	189.24	228.17	273.94
<b>40</b>	54.54	68.53	84.73	103.90	126.84	154.31	187.10	225.97	271.70
<b>45</b>	52.83	66.69	82.77	101.86	124.73	152.15	184.91	223.77	269.52
<b>50</b>	-	64.55	80.57	99.62	122.47	149.90	182.68	221.60	267.41
<b>55</b>	-	-	78.14	97.21	120.10	147.58	180.44	219.46	265.39
<b>60</b>	-	-	-	94.63	117.61	145.20	178.20	217.36	263.48

**C.O.P. [W/W]**

$t_c \setminus t_e$	-30	-25	-20	-15	-10	-5	0	5	10
<b>10</b>	3.11	3.86	4.77	5.85	-	-	-	-	-
<b>15</b>	2.64	3.28	4.04	4.94	6.00	-	-	-	-
<b>20</b>	2.24	2.77	3.41	4.17	5.06	6.09	-	-	-
<b>25</b>	1.88	2.33	2.87	3.50	4.24	5.11	6.11	-	-
<b>30</b>	1.57	1.95	2.39	2.92	3.55	4.27	5.11	6.07	7.15
<b>35</b>	1.30	1.61	1.99	2.43	2.94	3.55	4.26	5.06	5.98
<b>40</b>	1.06	1.32	1.63	2.00	2.43	2.93	3.52	4.20	4.97
<b>45</b>	0.85	1.07	1.33	1.63	1.98	2.40	2.88	3.45	4.10
<b>50</b>	-	0.86	1.07	1.31	1.60	1.94	2.34	2.81	3.35
<b>55</b>	-	-	0.84	1.04	1.28	1.55	1.88	2.26	2.71
<b>60</b>	-	-	-	0.81	1.00	1.22	1.49	1.80	2.16

**Application range**



- Maximum evaporating temperature
- 25°C suction gas temperature
- 10K gas overheat

Operating conditions: suction gas temperature 20°C, 0K subcooling

$t_c$  - Condensing temperature [°C]

$t_e$  - Evaporating temperature [°C]

R407C

**Cooling capacity [kW]**

$t_c \setminus t_e$	-25	-20	-15	-10	-5	0	5	10
15	2.49	2.95	3.58	4.39	5.38	6.56	-	-
20	2.34	2.82	3.46	4.28	5.27	6.44	7.79	-
25	2.19	2.67	3.32	4.13	5.11	6.27	7.60	-
30	2.03	2.51	3.16	3.96	4.92	6.05	7.35	8.82
35	1.87	2.35	2.98	3.76	4.70	5.80	7.06	8.49
40	1.72	2.19	2.79	3.54	4.44	5.50	6.72	8.09
45	-	2.02	2.60	3.31	4.17	5.18	6.34	7.65
50	-	-	2.40	3.07	3.88	4.83	5.92	7.17
55	-	-	-	2.83	3.57	4.46	5.48	6.64
60	-	-	-	-	3.26	4.07	5.01	6.09
65	-	-	-	-	-	3.67	4.52	5.50

**Power input [kW]**

$t_c \setminus t_e$	-25	-20	-15	-10	-5	0	5	10
15	0.86	0.83	0.81	0.80	0.79	0.79	-	-
20	0.97	0.95	0.93	0.92	0.92	0.91	0.91	-
25	1.09	1.08	1.07	1.06	1.05	1.05	1.04	-
30	1.23	1.22	1.21	1.21	1.20	1.20	1.18	1.16
35	1.38	1.38	1.37	1.37	1.37	1.36	1.35	1.32
40	1.56	1.56	1.56	1.56	1.56	1.55	1.53	1.50
45	-	1.76	1.76	1.77	1.76	1.75	1.73	1.70
50	-	-	1.99	2.00	2.00	1.99	1.97	1.93
55	-	-	-	2.26	2.26	2.25	2.23	2.18
60	-	-	-	-	2.56	2.55	2.52	2.47
65	-	-	-	-	-	2.88	2.85	2.80



**Current [A]**

$t_c \setminus t_e$	-25	-20	-15	-10	-5	0	5	10
15	2.51	2.45	2.42	2.40	2.39	2.38	-	-
20	2.57	2.53	2.50	2.49	2.48	2.48	2.46	-
25	2.66	2.63	2.61	2.60	2.60	2.59	2.58	-
30	2.78	2.75	2.74	2.74	2.74	2.73	2.72	2.69
35	2.93	2.91	2.91	2.91	2.91	2.91	2.89	2.85
40	3.12	3.11	3.11	3.12	3.12	3.11	3.09	3.05
45	-	3.36	3.36	3.37	3.37	3.36	3.34	3.29
50	-	-	3.66	3.67	3.67	3.66	3.63	3.58
55	-	-	-	4.02	4.02	4.01	3.97	3.91
60	-	-	-	-	4.43	4.41	4.37	4.30
65	-	-	-	-	-	4.88	4.83	4.75

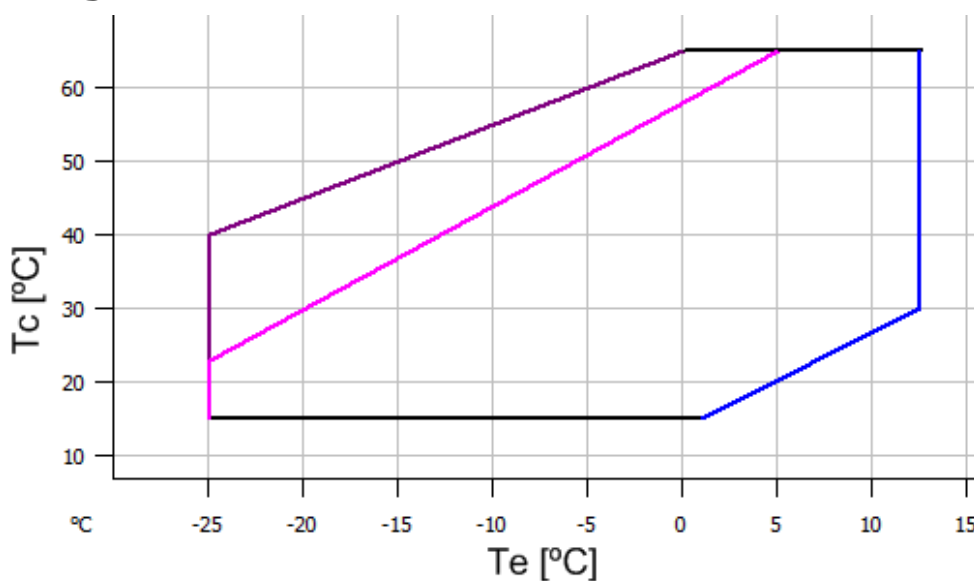
**Mass flow [kg/h]**

$t_c \setminus t_e$	-25	-20	-15	-10	-5	0	5	10
15	40.16	48.43	59.30	73.05	89.92	110.20	-	-
20	39.14	47.86	59.25	73.57	91.09	112.08	136.78	-
25	38.07	47.12	58.90	73.67	91.71	113.27	138.62	-
30	36.99	46.24	58.27	73.37	91.80	113.81	139.67	169.64
35	35.92	45.23	57.40	72.69	91.37	113.70	139.95	170.36
40	34.88	44.13	56.29	71.65	90.46	112.98	139.48	170.21
45	-	42.94	54.98	70.27	89.08	111.66	138.28	169.21
50	-	-	53.48	68.58	87.25	109.77	136.38	167.37
55	-	-	-	66.58	85.00	107.32	133.80	164.72
60	-	-	-	-	82.34	104.34	130.56	161.27
65	-	-	-	-	-	100.84	126.67	157.06

**C.O.P. [W/W]**

$t_c \setminus t_e$	-25	-20	-15	-10	-5	0	5	10
15	2.90	3.57	4.43	5.51	6.80	8.32	-	-
20	2.41	2.98	3.72	4.64	5.74	7.05	8.59	-
25	2.00	2.48	3.12	3.90	4.85	5.98	7.31	-
30	1.65	2.06	2.61	3.28	4.09	5.05	6.20	7.58
35	1.35	1.71	2.17	2.74	3.43	4.25	5.24	6.42
40	1.11	1.41	1.79	2.27	2.86	3.56	4.39	5.40
45	-	1.15	1.47	1.88	2.36	2.95	3.65	4.50
50	-	-	1.21	1.54	1.94	2.43	3.01	3.72
55	-	-	-	1.25	1.58	1.98	2.46	3.04
60	-	-	-	-	1.27	1.60	1.99	2.46
65	-	-	-	-	-	1.27	1.58	1.97

**Application range**

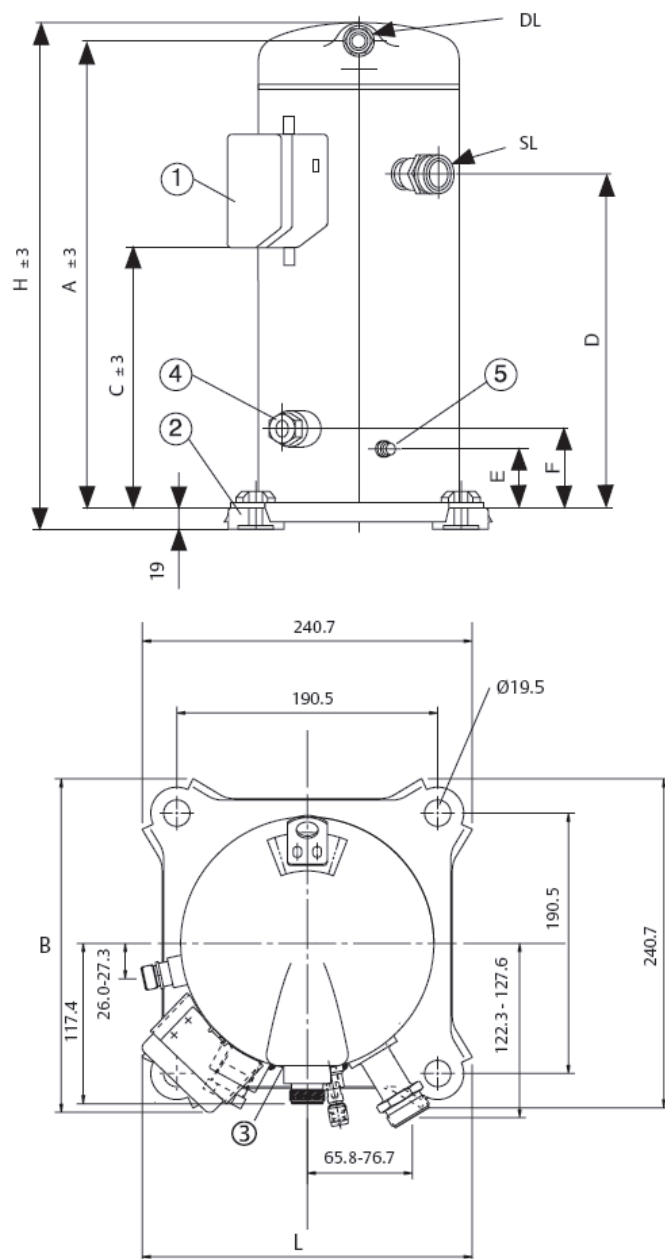


- Maximum evaporating temperature
- 25°C suction gas temperature
- 10K gas overheat

Operating conditions: suction gas temperature 20°C, 0K subcooling

$t_c$  - Condensing temperature [°C]

$t_e$  - Evaporating temperature [°C]



A	344 mm
B	242 mm
C	202 mm
D	245 mm
E	44 mm
F	69 mm
H	369 mm
L	242 mm

