

TWO-WAY GLOBE CONTROL VALVES V16/2 (ASME)

DESCRIPTION

The ADCATrol V16/2 is a series of single seated, two-way globe control valves designed for simple process engineering and industrial applications with non-critical operating conditions. These valves can be assembled with pneumatic, hydraulic or electric actuators, for modulating and shut-off control tasks.

MAIN FEATURES

Compact and cost-effective.
Modular design to meet process requirements.
Stem guided (up to 2") and post guided (from 2 1/2" to 4").
Parabolic plug design.
Stainless steel trim.

OPTIONS AND

ACCESSORIES: Bonnet extension for high and low temperatures.
Various stem sealing options including bellows sealing.
Soft or stellite valve sealing.
Reduced bore trims.
Silencers.

USE: Saturated and superheated steam.
Hot and superheated water.
Air, gases and others.

AVAILABLE

MODELS: V16/2S – carbon steel.
V16/2i – stainless steel.

SIZES: 1/2" to 4".

CONNECTIONS: Flanged ASME B16.5 Class 150 or 300.

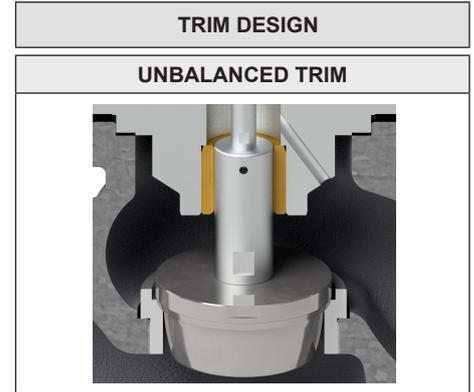


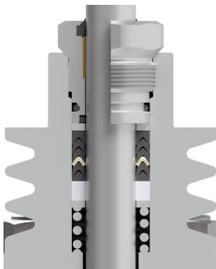
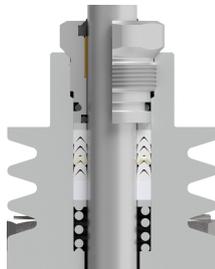
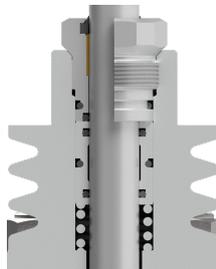
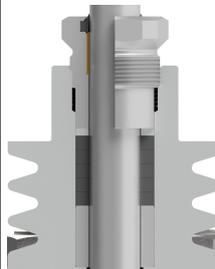
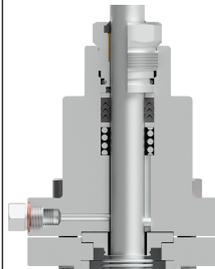
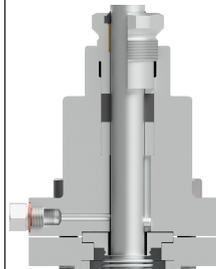
CE MARKING – GROUP 2 (PED – EUROPEAN DIRECTIVE)		
CLASS 150	CLASS 300	CATEGORY
1/2" to 2"	1/2" to 1"	SEP
2 1/2" to 4"	1 1/2" to 4"	1 (CE marked)

BODY LIMITING CONDITIONS *							
V16/2S				V16/2i			
CLASS 150		CLASS 300		CLASS 150		CLASS 300	
ALLOW. PRESS.	RELAT. TEMP.	ALLOW. PRESS.	RELAT. TEMP.	ALLOW. PRESS.	RELAT. TEMP.	ALLOW. PRESS.	RELAT. TEMP.
19,3 bar	-10 / 50 °C	50 bar	-10 / 50 °C	18,4	-10 / 50 °C	48,1	-10 / 50 °C
15,8 bar	150 °C	43,9 bar	200 °C	14,4	200 °C	35,8	200 °C
12,1 bar	250 °C	36,9 bar	350 °C	12	350 °C	30,4	350 °C
8,4 bar	350 °C	34,6 bar	400 °C	8,4	400 °C	29,3	400 °C

* Rating according to EN 1759-1:2004.

BONNET DESIGN	
STANDARD	EXTENDED
 <p>-10 to 250 °C</p>	 <p>Above 250 °C</p>



STEM SEALING					
PTFE/GR V-RINGS (V1.2)	PTFE V-RINGS (V2.2)	EPDM (EP1)	GRAPHITE (G1)	BELLOWS	
				(BV1)	(BG1)
 <p>-10 to 220 °C</p>	 <p>-10 to 180 °C</p>	 <p>-10 to 150 °C *</p>	 <p>-10 to 400 °C</p>	 <p>- 60 to 220 °C **</p>	 <p>- 60 to 400 °C **</p>

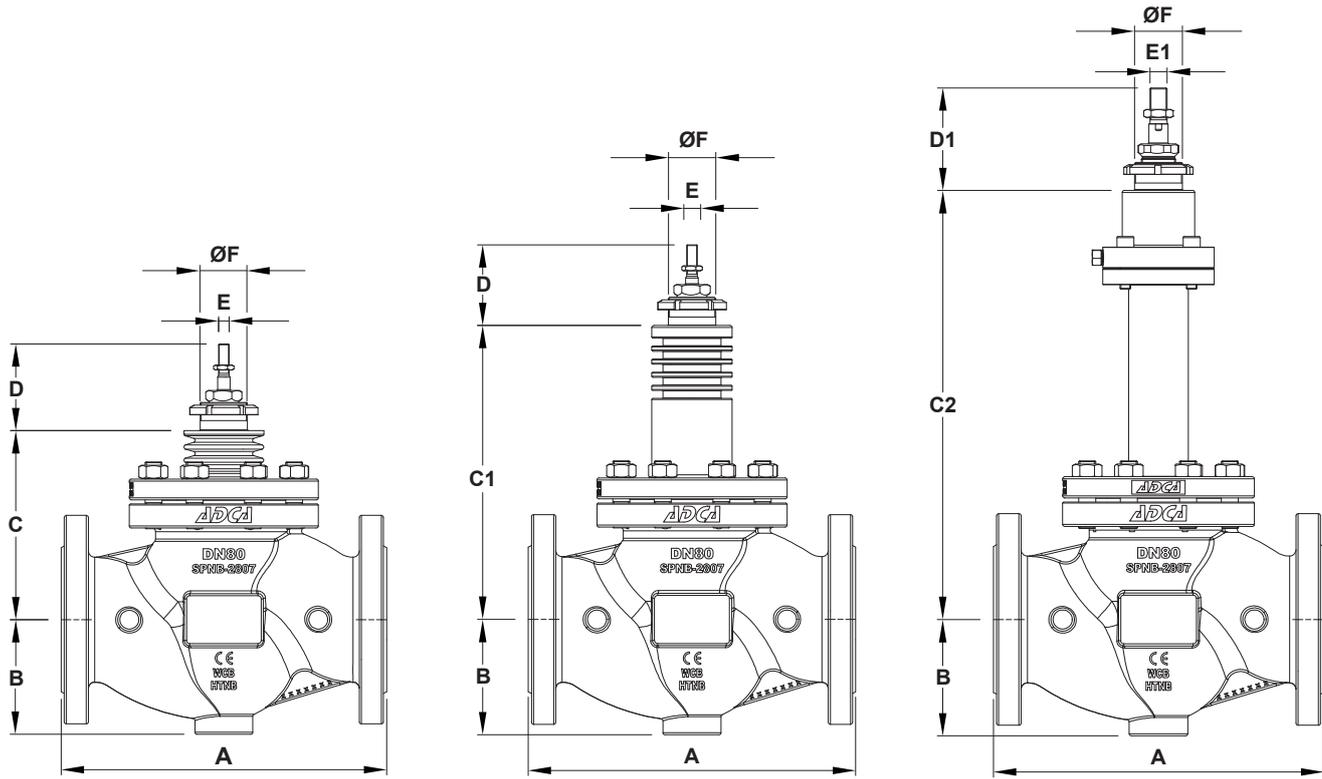
* Up to 180 °C in steam and hot water applications.

** Maximum operating pressure: 25 bar.

PLUG DESIGN	
PARABOLIC	PARABOLIC (SOFT SEALING)
 <p>Sealing: Metal to metal Characteristic: Equal percentage (EQP) or linear (PL) Flow direction: From below Rangeability: 50:1 (EQP) or 30:1 (PL) Leakage: Class IV, acc. to IEC 60534-4</p>	 <p>Sealing: PTFE/GR Characteristic: Equal percentage (EQP) or linear (PL) Flow direction: From below Rangeability: 50:1 (EQP) or 30:1 (PL) Leakage: Class VI, acc. to IEC 60534-4 Max. temp.: 200 °C</p>

FLOW RATE COEFFICIENTS – PARABOLIC PL AND EQP PLUGS											
SIZE	Kvs (m³/h)										
	2,1	2,7	4	6,3	10	16	25	40	63	100	160
1/2"	•	•	•								
3/4"	•	•	•	•							
1"	•	•	•	•	•						
1 1/2"				•	•	•	•				
2"					•	•	•	•			
2 1/2"						•	•	•	•		
3"							•	•	•	•	
4"								•	•	•	•
SEAT Ø (mm)	12		15	19,2	25	32	38	48	65	76	96
STROKE (mm)	20									30	

For conversion Kvs = Cv (US) x 0,865.



Valve with standard bonnet

Valve with extended bonnet

Bellows sealed valve

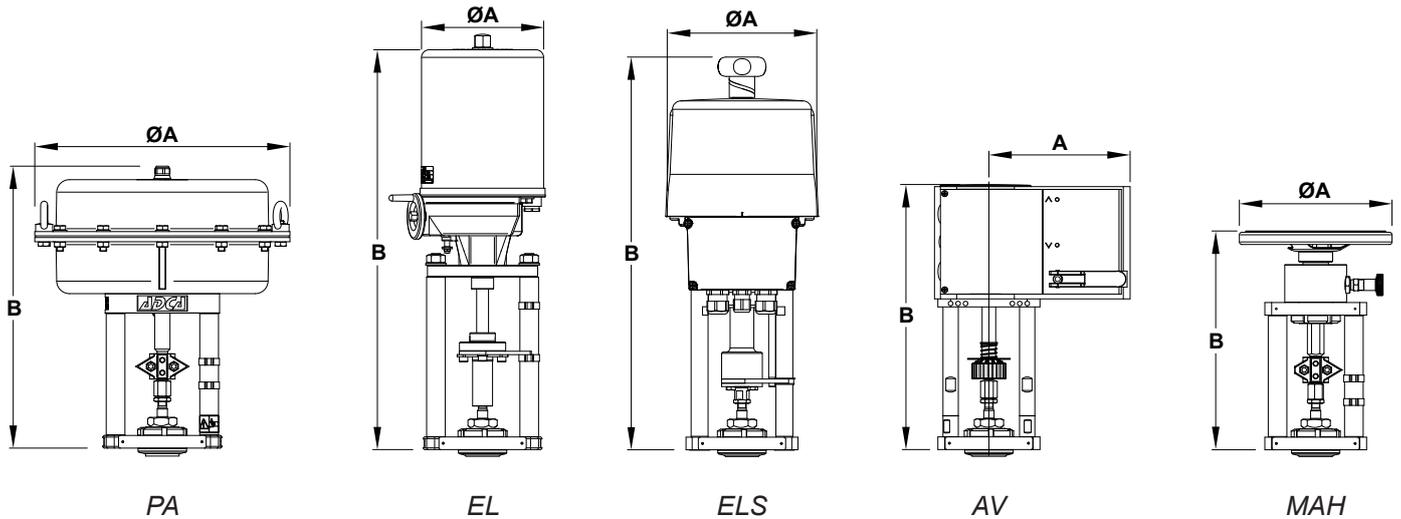
DIMENSIONS (mm)										
DIMENSION		SIZE								
		1/2"	3/4"	1"	1 1/2"	2"	2 1/2"	3"	4"	
A	CLASS 150	184 (a)	184 (a)	184	222	254	276	298	352	
	CLASS 300	190 (a)	194 (a)	197	235	267	292	318	368	
B	CLASS 150	44,5	49	54	65	85	100	110	130	
	CLASS 300	47,5	58,5	62	78	85	100	110	130	
C		85	85	90	115	125	176	175	190	
C1		150	150	170	195	204	276	275	310	
C2		314	314	322	317	317	415	442	451	
D								82		
D1								92		
E		M10 x 1								
E1		M10 x 1					M16 x 1,5			
ØF		M40 x 1,5					M45 x 1,5			

(a) With welded-on flanges.

Remark: In the beginning of year 2022 new face to face dimensions have been defined for some Class 150 valves. Valves may still be supplied with the previous face to face dimensions under request. Consult the manufacturer.

WEIGHTS (kg)									
OPTIONS		SIZE							
		1/2"	3/4"	1"	1 1/2"	2"	2 1/2"	3"	4"
STANDARD	CLASS 150	4,5	5	6,1	11,1	15,2	29,4	35	50,6
	CLASS 300	4,9	6	7,5	13,9	17,5	32,5	40,3	58,5
EXTENDED	CLASS 150	5,2	5,7	6,8	12,4	16,4	30,1	35,7	51,1
	CLASS 300	5,6	6,7	8,2	15,2	18,7	33,2	41	59
BELLOWS	CLASS 150	8,7	9,2	10,2	15,1	19	33,2	38,7	53,5
	CLASS 300	9,1	10,2	11,6	17,9	21,3	36,3	44	61,4

MAXIMUM PERMISSIBLE ACTUATING THRUSTS (kN)									
		SIZE							
		1/2"	3/4"	1"	1 1/2"	2"	2 1/2"	3"	4"
MAX. THRUST		12							



DIMENSIONS – PA SERIES PNEUMATIC ACTUATORS (mm)				
DIMENSION	PA10	PA25	PA40	PA80
ØA	170	250	300	405
B	251	260	325 / 360	505 / 515 / 545
WEIGHT (kg)	6,3	10,1	18,7 / 19,2	50,4 / 55,4 / 59,3

For more information, please consult IS PA.010 – PA Linear pneumatic actuators.

DIMENSIONS – EL SERIES ELECTRIC ACTUATORS (mm)					
DIMENSION	EL12	EL20	EL45	EL80	EL120
ØA	129	148	148	188	188
B	351	474	474	572	572
WEIGHT (kg)	2,1	8	8	13	13

For more information, please consult IS EL.012 – EL Linear electric actuators.

DIMENSIONS – ELS SERIES ELECTRIC ACTUATORS (mm)					
DIMENSION	ELS20	ELS45	ELS80	ELS100	ELS140
ØA	180	180	180	180	180
B	503 / 530	503 / 530	540 / 570	540 / 570	615 / 635
WEIGHT (kg)	4,5	4,5	7,2	7,2	8

For more information, please consult IS ELS.020 – ELS Linear electric actuators.

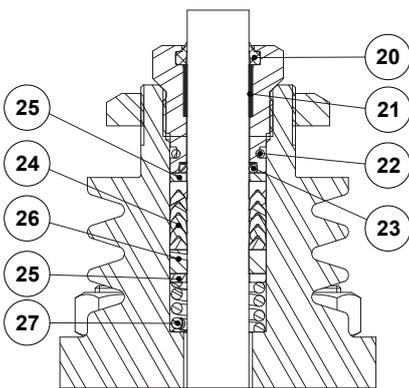
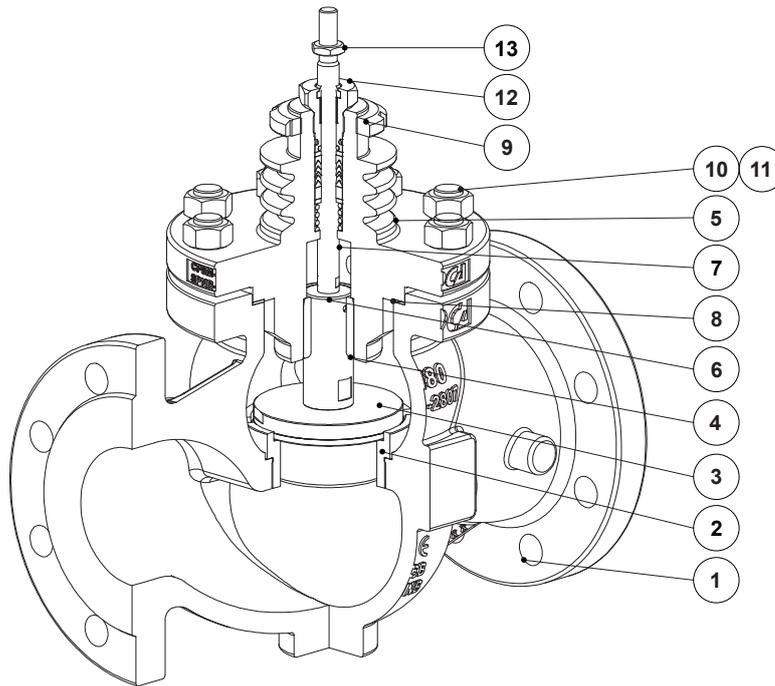
DIMENSIONS – AV SERIES ELECTRIC ACTUATORS (mm)		
DIMENSION	AVM234S	AVF234S
A	166	166
B	314	314
WEIGHT (kg)	4,1	4,1

For more information, please consult IS AVM234S-AVF234S Linear electric actuators.

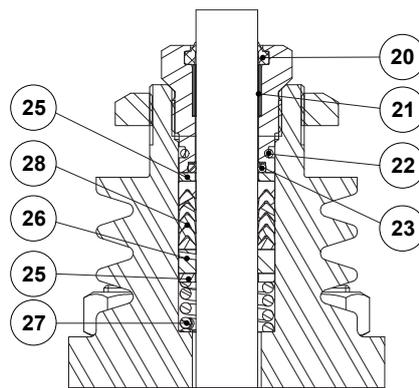
DIMENSIONS – MAH SERIES MANUAL OPERATED ACTUATORS (mm)	
DIMENSION	MAH180
ØA	180
B	260
WEIGHT (kg)	4,8

For more information, please consult IS MAH.010 – MAH Manual operated linear actuators.

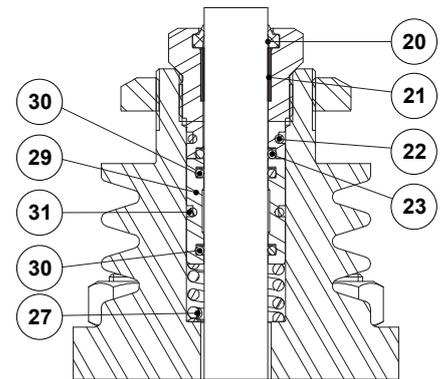
MATERIALS



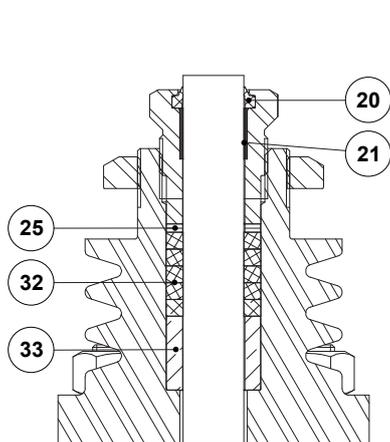
PTFE/GR V-Rings
(V1.2)



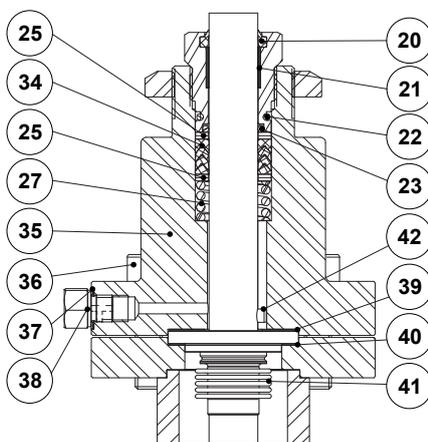
PTFE V-Rings
(V2.2)



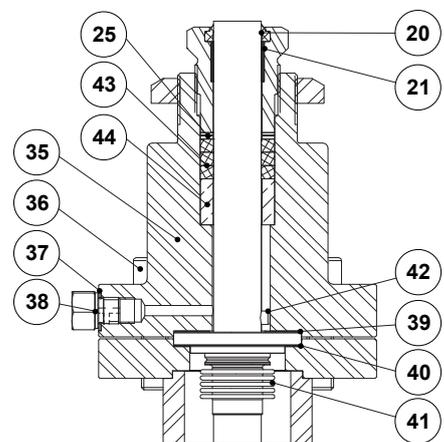
EPDM
(EP1)



Graphite
(G1)



Bellows sealing
(BV1)



Bellows sealing
(BG1)

MATERIALS

POS. No.	DESIGNATION	MATERIAL
1	Valve body (V16/2S)	A216 WCB / 1.0619
	Valve body (V16/2i)	A351 CF8M / 1.4408
2	* Seat	AISI 316L / 1.4404
3	* Valve plug	AISI 316L / 1.4404
4	Lower stem guide	** Bronze CB1
5	Bonnet (V16/2S)	A351 CF8M / 1.4408; A216 WCB / 1.0619
	Bonnet (V16/2i)	A351 CF8M / 1.4408
6	* Post stem (21/2" to 4")	AISI 316L / 1.4404
7	* Stem	AISI 316L / 1.4404
8	* Gasket	Stainless steel / Graphite
9	Lock nut	A351 CF8 / 1.4308
10	Nut (V16/2S)	EN 10269 steel
	Nut (V16/2i)	Stainless steel A2-70
11	Stud (V16/2S)	EN 10269 steel
	Stud (V16/2i)	Stainless steel A2-70
12	* Packing nut	AISI 303 / 1.4305
13	Lock nut	AISI 304 / 4.4301
20	* Scraper ring	FPM; NBR
21	* Plain bearing	Bronze / PTFE
22	* O-ring	EPDM
23	* O-ring	FPM
24	* Chevron packing set	PTFE; Graphite filled PTFE
25	Washer	AISI 304 / 1.4301
26	* Stem guide	Stainless steel filled PTFE
27	* Spring	AISI 302 / 1.4310
28	* Chevron packing set	PTFE
29	O-ring guide	AISI 304 / 1.4301
30	* O-ring	EPDM
31	* O-ring	EPDM
32	* Packing set	Expanded graphite
33	Packing spacer	AISI 304 / 1.4301
34	* Safety packing set	Graphite filled PTFE
35	Bellows bonnet (V16/2S)	A105 / 1.0432; AISI 316 / 1.4401
	Bellows bonnet (V16/2i)	AISI 316 / 1.4401
36	Bolt or stud and nut (V16/2S)	EN 10269 steel
	Bolt or stud and nut (V16/2i)	Stainless steel A2-70
37	Gasket	Copper
38	Plug	AISI 316 / 1.4401
39	* Gasket	Stainless steel / Graphite
40	* Gasket	Stainless steel / Graphite
41	* Metal bellows	AISI 316Ti / 1.4571
42	* Locking pin	AISI 303 / 1.4305
43	* Safety packing set	Expanded graphite
44	Packing spacer	AISI 304 / 1.4301

* Available spare parts.

** Can be produced in PEEK (Tmax. 250 °C) on request.



ORDERING CODES V16/2 (a)													
VALVE MODEL	V1	2	S	S	1	U	1	1	1	E	FD	U	015
V16/2 – Globe control valve, two-way, straight body	V1												
VALVE SERIES													
Series 2		2											
BODY MATERIAL													
A216 WCB / 1.0619 carbon steel			S										
A351 CF8M / 1.4408 stainless steel			I										
BONNET DESIGN													
Standard			S										
Extended			E										
TRIM DESIGN													
Unbalanced trim						1							
FLOW DIRECTION													
Flow under the plug							U						
Flow over the plug							O						
STEM SEALING													
PTFE/GR V-Rings (V1.2)								1					
Virgin PTFE V-Rings (V2.2)								2					
Graphite (G1)								3					
EPDM (EP1)								4					
Stainless steel bellows with PTFE/GR safety packing (BV1)								8					
Stainless steel bellows with graphite safety packing (BG1)								9					
PLUG DESIGN													
Parabolic									1				
VALVE SEALING													
Metal to metal (class IV)										1			
Soft sealed with PTFE/GR (class VI)										3			
Stellited seat and plug (class IV)										4			
Stellited seat (class IV)										5			
CHARACTERISTIC													
Equal percentage (EQP)											E		
Linear (PL)											L		
FLOW RATE COEFFICIENT													
Kvs 4												FD	
See table below for other Kvs value codes													
PIPE CONNECTIONS													
Flanged ASME B16.5 Class 150													U
Flanged ASME B16.5 Class 300													V
SIZE													
1/2"													015
3/4"													020
...													
SPECIAL CONSTRUCTION / ADDITIONAL OPTIONS													
A full description must to be provided and validated in case of a non-standard construction													E

(a) Codification for valve only. For actuator codes, refer to the appropriate information sheet.

FLOW RATE COEFFICIENT CODES											
Kvs	2,1	2,7	4	6,3	10	16	25	40	63	100	160
Code	R2	R1	FD	FE	FF	FG	FH	FI	FJ	FL	FM