

## 7. Non-rotating compact cylinders-NR-CXHC

### Inductive non-rotating compact cylinders-NRMG-CXHC

**tüv** ISO-9001 : 2000 quality certified

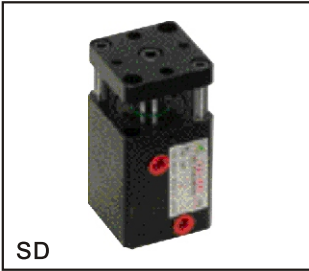
working pressure : 70 、 140kgf/cm<sup>2</sup>



Non-rotating compact cylinders-NR-CXHC  
Inductive non-rotating compact cylinders-NRMG-CXHC

### ■■■ Index ■■■

1.NR-CXHC / NRMG-CXHC features and installations.....	P7.2
2.NR-CXHC / NRMG-CXHC theoretical force.....	P7.2
3.NR-CXHC / NRMG-CXHC structures and part names.....	P7.3
4.NR-CXHC / NRMG-CXHC order form.....	P7.4
5.NR-CXHC SD external dimensions.....	P7.5
6.NR-CXHC FA external dimensions.....	P7.6
7.NRMG-CXHC SD external dimensions.....	P7.7
8.NRMG-CXHC FA external dimensions.....	P7.8
9.example for the usage of check valves and flow regulators.....	P7.9

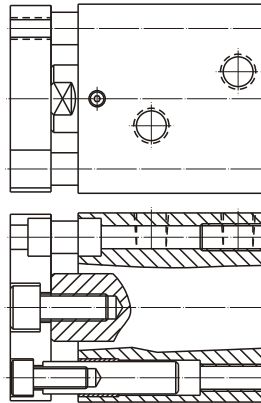
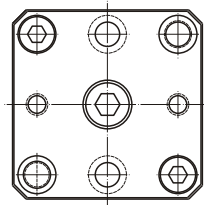


### Features

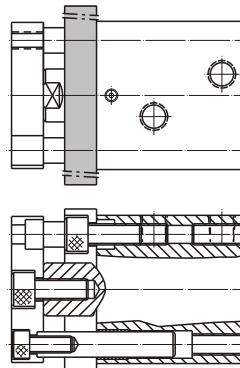
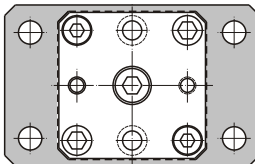
- a compact cylinder(CXHC),with four guide rods and one guide plate form the non-rotating compact cylinder(NR-CXHC)
- a inductive compact cylinder (MG-CXHC)with four guide rods and one guide plate form the inductive non-rotating compact cylinders(NRMG-CXHC)
- All available bore sizes are:  
 (1)NR -CXHC : 20、25、32、40、50、63、80、100  
 (2)NRMG-CXHC : 32、40、50、63、80、100

### Installations

#### SD-basic



#### ■ FA-flange



Non-rotating compact cylinders-NR-CXHC  
Inductive non-rotating compact cylinders-NRMG-CXHC

Theoretical force

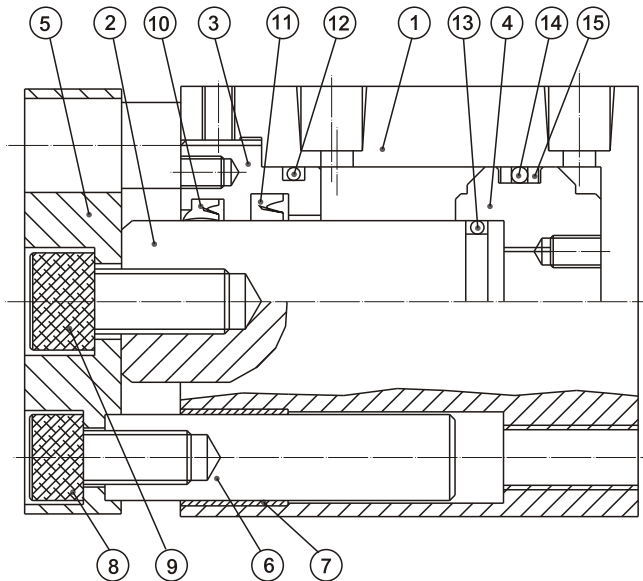
unit : kg

bore(mm)	rod(mm)	pressed piston area (cm <sup>2</sup> )		theoretical force (p=70kgf/cm <sup>2</sup> )		theoretical force (p=140kgf/cm <sup>2</sup> )	
		push	pull	push	pull	push	pull
32	20	8.0	4.9	560	343	1120	686
40	25	12.6	7.7	880	536	1760	1072
50	30	19.6	12.6	1375	88	2750	1760
63	35	31.2	21.65	2182	1508	4343	3016
80	40	50.3	38	3519	2660	7038	5320
100	56	78.5	53.9	5498	3774	10995	7548

Structures and part names

non-rotating compact cylinders-NR-CXHC

SD

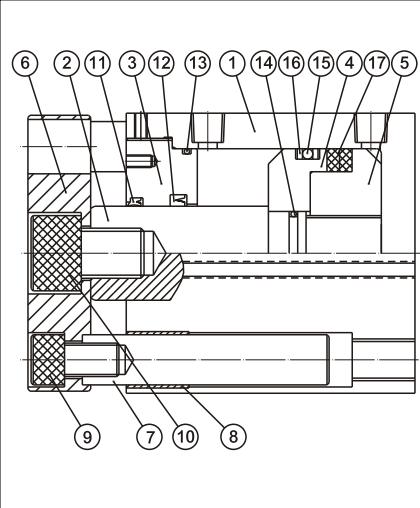


item	part name	q'ty	item	part name	q'ty	item	part name	q'ty
①	tube	1	⑥	guide rod	2	⑪	rod packing	1
②	piston rod	1	⑦	guide bush	2	⑫	rod cover o-ring	1
③	rod cover	1	⑧	bolt	2	⑬	cushion o-ring	1
④	piston	1	⑨	plate bolt	1	⑭	piston o-ring	1
⑤	plate	1	⑩	dust seal	1	⑮	back up ring	2

Structures and part names

inductive non-rotating compact cylinders-NRMG-CXHC

SD



item	part name	q'ty	item	part name	q'ty
①	tube	1	⑩	plate bolt	1
②	piston rod	1	⑪	dust seal	1
③	rod cover	1	⑫	rod packing	1
④	piston(1)	1	⑬	rod cover o-ring	1
⑤	piston(2)	1	⑭	piston o-ring	1
⑥	plate	1	⑮	piston o-ring	1
⑦	guide rod	2	⑯	back up ring	2
⑧	guide bush	2	⑰	magnet	2
⑨	bolt	2			

■ note : please refer to CXHC (P5.4)and MG-CXHC(P6.3) for the seals spec. Of NR-CXHC and NRMG-CXHC

Order form

NR-CXHC — J — SD — 32 × 50 — T × n — 1 — 02 — A

①                      ②                      ③                      ④                      ⑤                      ⑥                      ⑦                      ⑧                      ⑨

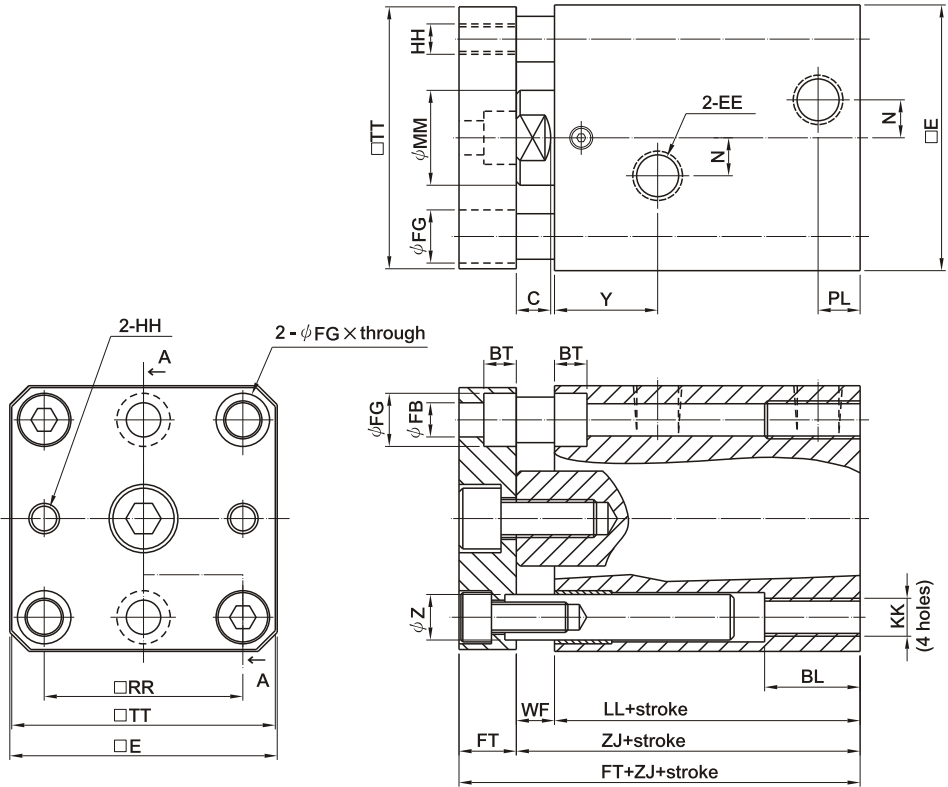
①	type	(1)N R-CXHC : non-rotating compact cylinders (2)NRMG-CXHC : nductive non-rotating compact cylinders
②	options	J : with heat/erosion proof (note : "space"if not be used)
③	installations	(1)SD : basic (2)FA : flage
④	bore(mm)	(1)N R-CXHC : 20、25、32、40、50、63、80、100 (2)NRMG-CXHC : 32、40、50、63、80、100
⑤	stroke(mm)	no "standard stroke"table
⑥	sensor and q'ty	(1)T : 2 wires, 2 meters P : PNP3 wires, 2 meters N : NPN3 wires, 2 meters (2)n : q'ty
⑦	packing	(1)1 : (PU)(standard usage) (2)2 : (NBR) (3)3 : (FPM)
⑧	example for the usage of check valves	(1)02 : 1/4"(12 ℓ/min) (2)03 : 3/8"(20 ℓ/min) (3)04 : 1/2"(30 ℓ/min)
⑨	flow regulators	(1)A : 3/8"(50 ℓ/min) (2)B : 3/4"(125 ℓ/min) (3)C : 1 1/2"(320 ℓ/min)

Non-rotating compact cylinders-NR-CXHC  
 Inductive non-rotating compact cylinders-NRMG-CXHC

External dimensions

non-rotating compact cylinders-NR-CXHC-SD

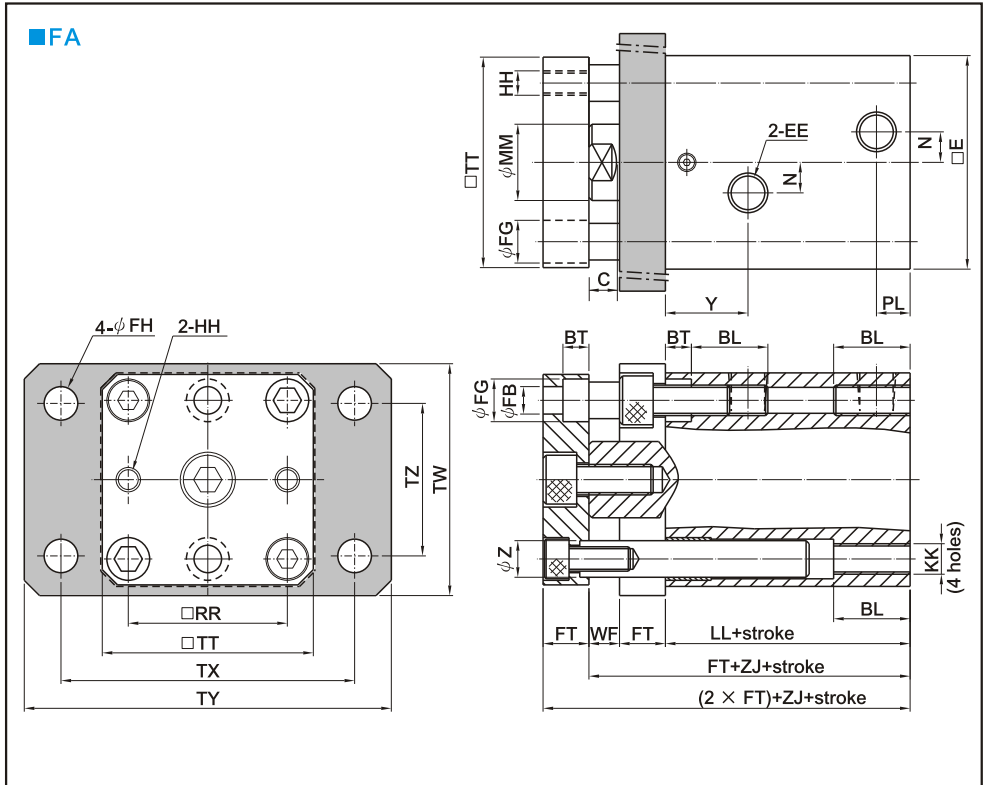
■ SD



Symbol bore	BT	BL	C	E	EE	FB	FG	FT	HH	KK	LL	MM	N	PL	RR	TT	WF	Y	Z	ZJ
20	5.4	15	7	44	Rc1/8"	5.5	9.5	8	M5×0.8	M6×1.0	43	12	0	12	30	43	8	20.5	8	51
25	5.4	15	7	50	Rc1/8"	5.5	9.5	8	M5×0.8	M6×1.0	45	14	0	12	36	49	8	20.5	8	53
32	6.5	20	9	62	Rc1/4"	7	11	12	M6×1.0	M8×1.25	54	20	10	10.5	47	61	10	27	10	64
40	8.6	25	9	70	Rc1/4"	9	14	15	M8×1.25	M10×1.5	55	25	10	11	52	69	10	27	12	65
50	10.8	25	9	80	Rc1/4"	11	17.5	18	M10×1.5	M12×1.75	60	30	10	11	58	79	11	28	16	71
63	13	25	11	94	Rc1/4"	14	20	21	M12×1.75	M16×2.0	67	35	10	11	69	93	13	30	16	80
80	15.2	30	14	114	Rc3/8"	16	23	24	M14×2.0	M20×2.5	78	40	15	15	86	113	17	35	20	95
100	17.5	30	14	134	Rc3/8"	18	26	30	M16×2.0	M20×2.5	82	56	15	15	102	132	17	39	20	99

External dimensions

non-rotating compact cylinders-NR-CXHC-FA

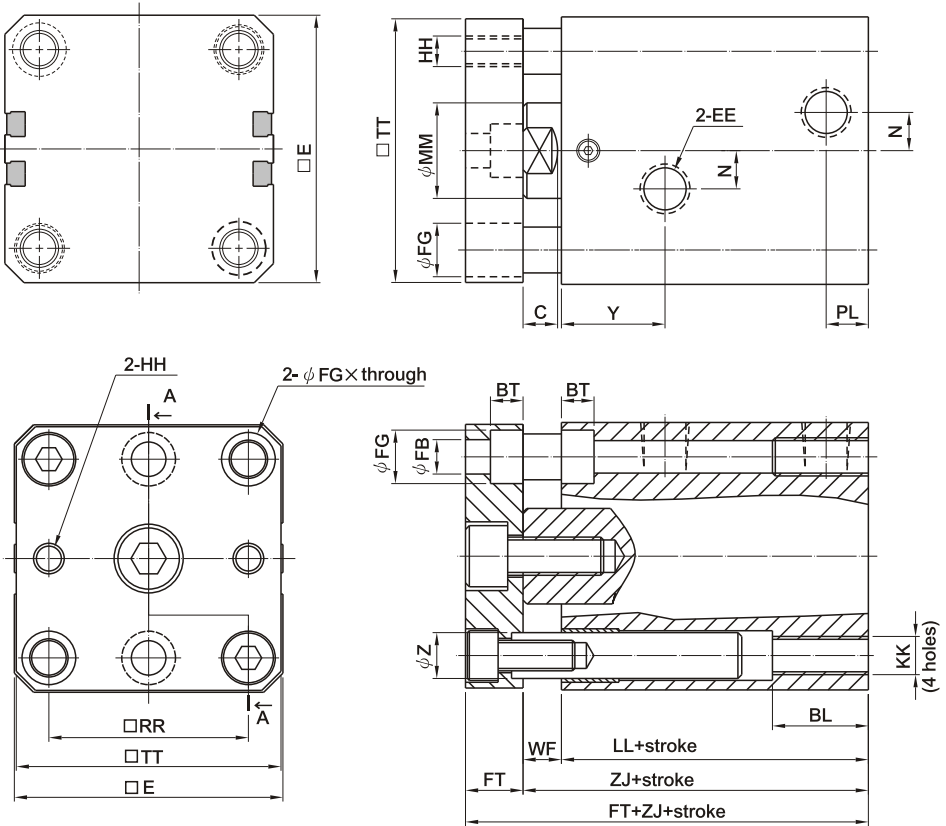


Symbol bore	BT	BL	C	E	EE	FB	FG	FH	FT	HH	KK	LL	MM	N	PL	RR	TT	TW	TX	TY	TZ	WF	Y	Z	ZJ
20	5.4	15	7	44	Rc 1/8"	5.5	9.5	9	8	M5×0.8	M6×1.0	43	12	0	12	30	43	46	60	80	26	8	20.5	8	51
25	5.4	15	7	50	Rc 1/8"	5.5	9.5	9	8	M5×0.8	M6×1.0	45	14	0	12	36	49	52	70	90	32	8	20.5	8	53
32	6.5	20	9	62	Rc 1/4"	7	11	11	12	M6×1.0	M8×1.25	54	20	10	10.5	47	61	66	84	105	40	10	27	10	64
40	8.6	25	9	70	Rc 1/4"	9	14	11	15	M8×1.25	M10×1.5	55	25	10	11	52	69	75	96	120	50	10	27	12	65
50	10.8	25	9	80	Rc 1/4"	11	17.5	14	18	M10×1.5	M12×1.75	60	30	10	11	58	79	84	105	135	52	11	28	16	71
63	13	25	11	94	Rc 1/4"	14	20	18	21	M12×1.75	M16×2.0	67	35	10	11	69	93	100	125	160	65	13	30	16	80
80	15.2	30	14	114	Rc 3/8"	16	23	22	24	M14×2.0	M20×2.5	78	40	15	15	86	113	124	150	190	75	17	35	20	95
100	17.5	30	14	134	Rc 3/8"	18	26	22	30	M16×2.0	M20×2.5	82	56	15	15	102	132	140	174	215	90	17	39	20	99

External dimensions

inductive non-rotating compact cylinders-NRMG-CXHC-SD

■ SD



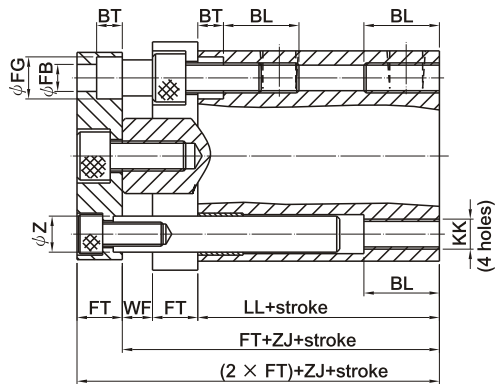
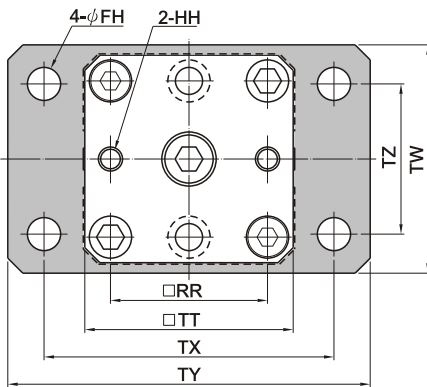
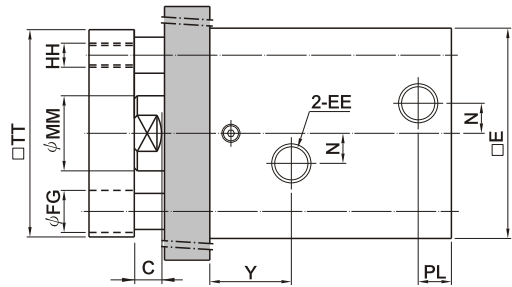
Non-rotating compact cylinders-NR-CXHC  
 Inductive non-rotating compact cylinders-NRMG-CXHC

Symbol bore	BT	BL	C	E	EE	FB	FG	FT	HH	KK	LL	MM	N	PL	RR	TT	WF	Y	Z	ZJ
32	6.5	20	9	62	Rc1/4"	7	11	12	M6×1.0	M8×1.25	73	20	10	17	47	61	10	27	10	83
40	8.6	25	9	70	Rc1/4"	9	14	15	M8×1.25	M10×1.5	70	25	10	16	52	69	10	27	12	80
50	10.8	25	9	80	Rc1/4"	11	17.5	18	M10×1.5	M12×1.75	75	30	10	16	58	79	11	28	16	86
63	13	25	11	94	Rc1/4"	14	20	21	M12×1.75	M16×2.0	84	35	10	18	69	93	13	30	16	97
80	15.2	30	14	114	Rc3/8"	16	23	24	M14×2.0	M20×2.5	95	40	15	22	86	113	17	35	20	112
100	17.5	30	14	134	Rc3/8"	18	26	30	M16×2.0	M20×2.5	100	56	15	25	102	132	17	39	20	117

External dimensions

inductive non-rotating compact cylinders-NRMG-CXHC-FA

FA



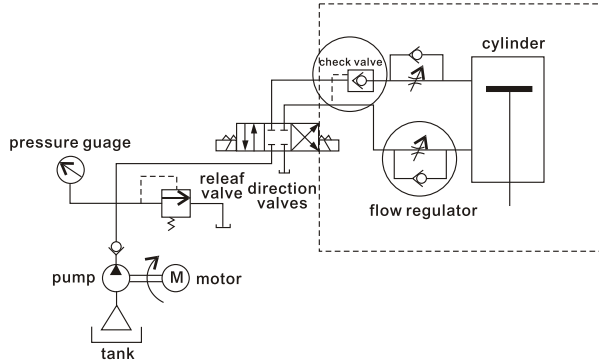
Symbol bore	BT	BL	C	E	EE	FB	FG	FH	FT	HH	KK	LL	MM	N	PL	RR	TT	TW	TX	TY	TZ	WF	Y	Z	ZJ
32	6.5	20	9	62	Rc 1/4"	7	11	11	12	M6×1.0	M8×1.25	73	20	10	10.5	47	61	66	84	105	40	10	27	10	83
40	8.6	25	9	70	Rc 1/4"	9	14	11	15	M8×1.25	M10×1.5	70	25	10	11	52	69	75	96	120	50	10	27	12	80
50	10.8	25	9	80	Rc 1/4"	11	17.5	14	18	M10×1.5	M12×1.75	75	30	10	11	58	79	84	105	135	52	11	28	16	86
63	13	25	11	94	Rc 1/4"	14	20	18	21	M12×1.75	M16×2.0	84	35	10	11	69	93	100	125	160	65	13	30	16	97
80	15.2	30	14	114	Rc 3/8"	16	23	22	24	M14×2.0	M20×2.5	95	40	15	15	86	113	124	150	190	75	17	35	20	112
100	17.5	30	14	134	Rc 3/8"	18	26	22	30	M16×2.0	M20×2.5	100	56	15	15	102	132	140	174	215	90	17	39	20	117



Example for the of check valves and flow regulators



●hydraulic circuit diagram

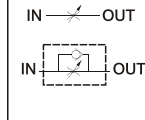
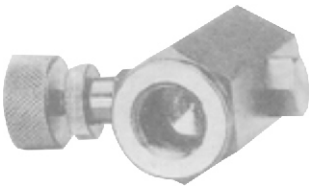


note :

- 1.Regulate the speed of cylinders motions.
- 2.The control direction of flow speed regulator needs to be carefully taken while installing a regulator onto a cylinder.
- 3.Speed regulator is very useful(1)to prevent an abnormal cylinder movement, (2)to hold off the back pressure caused by mold ejection or (3)to justify the pressure dropping due to tubing bore variation caused by temperature change.

flow speed regulator

check valve



use	1.Regulate the speed of cylinder motions. 2.The correction of flow direction is necessary.			
	bore(RC)	1/4	3/8	1/2
spec.	flow(ℓ/min)	12	20	30
	order form	FL02	FI03	FI04

use	1.To prevent a stroke dropping due to a load overweight or internal leakage 2.Working pressure : 210kgf/cm <sup>2</sup>			
	bore(RC)	3/8	3/4	1 1/2
spec.	flow(ℓ/min)	50	125	320
	order form	PCV03	PCV06	PCV15