



# PWM SPRAY TIP SELECTION

YOUR BEST OPTIONS FOR PULSE WIDTH MODULATION  
SPRAY TIP CONTROL SYSTEMS



15 & 20"  
TIP SPACING

# MAKE EVERY DROP COUNT WITH YOUR PWM CONTROL



PWM spray tip control systems, like DynaJet®, use a PWM (pulse width modulation) valve located at the nozzle body to adjust spray tip flow rate when changes in speed are detected. Spray tips that are paired with PWM controls are serving two main purposes - the formation of the spray pattern and droplet size. Target droplet size selection should be based on providing sufficient coverage for proper pest control while balancing out needs for drift management.

With air induction tips air is mixed with water through a venturi air aspirator that produces large air-filled droplets. When a PWM valve is used in conjunction with certain air induction tips, the mixing chamber and air inlet can fill with water as the PWM valve cycles. This can then result in water escaping out the air inlet holes, which can lead to poor distribution. New designs in air-induction tips however, have been proven to work well with PWM valves and nozzle control systems.





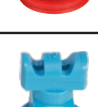






## WHAT MAKES A TEEJET SPRAY TIP "PWM APPROVED"?

Based on a combination of field and laboratory testing, PWM approved spray tips must meet the following criteria at a variety of duty-cycles:

- Excellent spray distribution in the direction of travel
- Rapid and complete spray pattern formation
- Excellent spray distribution across the boom
- Droplet size consistency



SPRAY TIP	CAPACITIES	PRESSURE RANGE	QUICK TEEJET® CAP	HOW TO ORDER
 <b>AccuPulse® TwinJet®</b>	015-12 (10 SIZES)	20-100 PSI 1.5-7 BAR	114441A*-CELR (01 to 08) 114502A*-CELR (10 & 12)	<b>Example:</b> APTJ-11004VP – Polymer tip with VisiFlo® color-coding APTJ-11004VP-CE - Polymer tip with VisiFlo® color-coding, includes Quick TeeJet cap and gasket
 <b>Turbo TeeJet® Induction</b>	01-10 (10 SIZES)	15-100 PSI 1-7 BAR	115835A*-CELR (015-06) 114502A*-CELR (08-15)	<b>Example:</b> TT11004-VP – Polymer tip with VisiFlo® color-coding TT11003-VP-CE – Polymer tip with VisiFlo color-coding, includes Quick TeeJet cap and gasket
 <b>TTI TwinJet®</b>	02-08 (7 SIZES)	20-100 PSI 1.5-7 BAR	—	<b>Example:</b> TT160-11004VP – Polymer tip with VisiFlo® color-coding, includes Quick TeeJet cap and gasket
 <b>Air Induction Turbo TwinJet®</b>	02-15 (9 SIZES)	20-90 PSI 1.5-6 BAR	114443A*-CELR (02-06) 114502A*-CELR (08-15)	<b>Example:</b> AITTJ60-11004VP – Polymer tip with VisiFlo® color-coding AITTJ60-11004VP-CE – Polymer tip with VisiFlo color-coding, includes Quick TeeJet cap and gasket
 <b>Turbo TwinJet®</b>	02-10 (8 SIZES)	20-90 PSI 1.5-6 BAR	114441A*-CELR	<b>Example:</b> TTJ60-11004VP – Polymer tip with VisiFlo® color-coding TTJ60-11003VP-CE – Polymer tip with VisiFlo color-coding, includes Quick TeeJet cap and gasket
 <b>Turbo TeeJet®</b>	01-12 (11 SIZES)	15-90 PSI 1-6 BAR	114440A*-CE	<b>Example:</b> TT11001-VP – Polymer tip with VisiFlo® color-coding TT11002-VP-CE – Polymer tip with VisiFlo color-coding, includes Quick TeeJet cap and gasket
 <b>XRC TeeJet®</b>	015-20 (11 SIZES)	15-60 PSI 1-4 BAR	—	<b>Example:</b> XRC11004-VS – Stainless Steel tip with VisiFlo® color-coding XRC11004-VP – Polymer tip with VisiFlo color-coding XRC11004-VK – Ceramic tip with VisiFlo color-coding
 <b>XR TeeJet®</b>	01-15 (12 SIZES)	15-60 PSI 1-4 BAR	114441A*-CELR 25610*-NYR (10 & 15)	<b>Example:</b> XR11004VS – Stainless Steel tip with VisiFlo® color-coding XR11004-VP – Polymer tip with VisiFlo color-coding XR11004-VK – Ceramic tip with polypropylene VisiFlo color coding XR11002-VP-CE Polymer tip with VisiFlo color-coding, includes Quick TeeJet cap and gasket
 <b>TwinJet®</b>	01-10 (8 SIZES)	30-60 PSI 2-4 BAR	114443A*-CELR	<b>Example:</b> TJ60-11002VS – Stainless Steel tip with VisiFlo® color-coding

Note: Only spray tips producing 110° or greater spray angles should be used with PWM control systems.

# 15" TIP SPACING

## DYNAJET® APPLICATION RATE CHART FOR SYSTEMS EQUIPPED WITH 115880 DYNAJET VALVES

### Speed Range Available for Various Application Rates - 15" Tip Spacing

#### PWM Nozzle Selection

Application Parameters:

- Application Rate
- Tip Spacing
- Average Field Speed
- Optimum droplet size for chemical mode of action
- Maximum / Minimum field speeds

#### TEEJET PWM APPROVED SPRAY TIPS - FULL RANGE OF DROPLET SIZES AVAILABLE

TeeJet offers a variety of spray tips that can be used with PWM systems and offer the following:

- Single Flat Spray
- Twin Flat Spray
- Air Induction or non-Air Induction
- 02-12 Capacity
- Fine (F) to Ultra Coarse (UC) Droplet Size Range

#### HOW TO USE THIS CHART:

- 1 Select target application rate - 15 GPA
- 2 Select your maximum ground speed - 15 MPH (keep in mind your typical operating speeds)
- 3 Choose a tip and pressure that produce the desired droplet size category or categories - UC & XC

TIP SIZE	Gauge Pressure PSI	SPRAY TIP SERIES										SPEED RANGE (MPH)															
		TJ60	XR/XRC	TT	TTJ60	TTT60	TTT60	TTT	APTJ	5 GPA		7.5 GPA		10 GPA		12 GPA		15 GPA		17.5 GPA		20 GPA		25 GPA		30 GPA	
										Min	Max	Min	Max	Min	Max	Min	Max	Min	Max	Min	Max	Min	Max	Min	Max	Min	Max
11002	20	-	M	VC	C	XC	UC	UC	UC	3	11	2	7	1.7	6	1.4	5	1.1	4	1.0	3	0.8	3	0.7	2	0.6	1.8
	30	F	F	C	C	VC	XC	UC	UC	4	13	3	9	2	7	1.7	6	1.3	4	1.2	4	1.0	3	0.8	3	0.7	2
	40	F	F	M	M	VC	XC	UC	UC	5	16	3	11	2	8	2	7	1.6	5	1.4	5	1.2	4	1.0	3	0.8	3
	50	F	F	M	M	C	VC	XC	UC	5	17	3	12	3	9	2	7	1.7	6	1.5	5	1.3	4	1.0	3	0.9	3
	60	F	F	M	M	C	VC	XC	UC	6	19	4	13	3	10	2	8	2	6	1.6	5	1.4	5	1.1	4	1.0	3
	70	-	-	M	M	C	VC	XC	UC	6	21	4	14	3	10	3	9	2	7	1.8	6	1.5	5	1.2	4	1.0	3
	80	-	-	F	M	C	VC	XC	UC	7	22	4	15	3	11	3	9	2	7	2	6	1.7	6	1.3	4	1.1	4
90	-	-	F	M	C	VC	XC	UC	7	24	5	16	4	12	3	10	2	8	2	7	1.8	6	1.4	5	1.2	4	
110025	20	-	M	VC	C	XC	UC	UC	UC	4	14	3	10	2	7	1.8	6	1.4	5	1.2	4	1.1	4	0.9	3	0.7	2
	30	-	M	C	C	VC	XC	UC	UC	5	17	3	12	3	9	2	7	1.7	6	1.5	5	1.3	4	1.0	3	0.9	3
	40	-	F	M	M	VC	XC	UC	UC	6	20	4	13	3	10	2	8	2	7	1.7	6	1.5	5	1.2	4	1.0	3
	50	-	F	M	M	VC	XC	UC	UC	7	22	4	15	3	11	3	9	2	7	2	6	1.7	6	1.3	4	1.1	4
	60	-	F	M	M	C	VC	XC	UC	7	25	5	16	4	12	3	10	2	8	2	7	1.8	6	1.5	5	1.2	4
	70	-	-	M	M	C	VC	XC	UC	8	26	5	17	4	13	3	11	3	9	2	7	2	7	1.6	5	1.3	4
	80	-	-	F	M	C	VC	XC	UC	8	28	6	18	4	14	3	12	3	9	2	8	2	7	1.7	6	1.4	5
90	-	-	F	M	C	VC	XC	UC	9	30	6	20	5	15	4	13	3	10	3	9	2	8	1.8	6	1.5	5	
11003	20	-	M	VC	C	XC	UC	UC	UC	5	17	3	11	2	8	2	7	1.7	6	1.4	5	1.2	4	1.0	3	0.8	3
	30	-	M	C	C	VC	XC	UC	UC	6	21	4	14	3	10	3	9	2	7	1.8	6	1.5	5	1.2	4	1.0	3
	40	F	F	M	M	VC	XC	UC	UC	7	24	5	16	4	12	3	10	2	8	2	7	1.8	6	1.4	5	1.2	4
	50	F	F	M	M	C	VC	XC	UC	8	26	5	17	4	13	3	11	3	9	2	7	2	7	1.6	5	1.3	4
	60	F	F	M	M	C	VC	XC	UC	9	29	6	19	4	14	4	12	3	10	2	8	2	7	1.7	6	1.4	5
	70	-	-	M	M	C	VC	XC	UC	9	31	6	21	5	15	4	13	3	10	3	9	2	8	1.9	6	1.5	5
	80	-	-	F	M	C	VC	XC	UC	10	32	6	22	5	16	4	14	3	11	3	9	2	8	2	6	1.6	5
90	-	-	F	M	C	VC	XC	UC	10	35	7	23	5	17	4	15	3	12	3	10	3	9	2	7	1.7	6	
11004	20	-	M	VC	C	XC	UC	UC	UC	6	21	4	14	3	11	3	9	2	7	1.8	6	1.6	5	1.3	4	1.1	4
	30	-	M	C	C	VC	XC	UC	UC	8	27	5	18	4	13	3	11	3	9	2	8	2	7	1.6	5	1.3	4
	40	F	M	M	M	VC	XC	UC	UC	9	31	6	21	5	15	4	13	3	10	3	9	2	8	1.9	6	1.5	5
	50	F	F	M	M	VC	XC	UC	UC	10	35	7	23	5	17	4	15	3	12	3	10	3	9	2	7	1.7	6
	60	F	F	M	M	VC	XC	UC	UC	11	38	8	25	6	19	5	16	4	13	3	11	3	10	2	8	2	6
	70	-	-	M	M	C	VC	XC	UC	12	41	8	27	6	21	5	17	4	14	4	12	3	10	2	8	2	7
	80	-	-	M	M	C	VC	XC	UC	13	44	9	29	7	22	5	18	4	15	4	12	3	11	3	9	2	7
90	-	-	F	M	C	VC	XC	UC	14	46	9	31	7	23	6	19	5	15	4	13	3	11	3	9	2	8	
11005	20	-	M	VC	C	XC	UC	UC	UC	8	27	5	18	4	13	3	11	3	9	2	8	2	7	1.6	5	1.3	4
	30	-	M	VC	C	VC	XC	UC	UC	10	32	6	22	5	16	4	14	3	11	3	9	2	8	2	6	1.6	5
	40	M	M	C	C	VC	XC	UC	UC	11	38	8	25	6	19	5	16	4	13	3	10	2	8	2	6	1.6	5
	50	M	F	M	M	VC	XC	UC	UC	13	43	9	29	6	21	5	18	4	14	4	12	3	11	3	9	2	7
	60	M	F	M	M	VC	XC	UC	UC	14	46	9	31	7	23	6	19	5	15	4	13	3	11	3	9	2	8
	70	-	-	M	M	VC	XC	UC	UC	15	50	10	33	7	25	6	21	5	17	4	14	4	12	3	10	2	8
	80	-	-	M	M	C	VC	XC	UC	16	54	11	36	8	27	7	22	5	18	5	15	4	13	3	11	3	9
90	-	-	F	M	C	VC	XC	UC	17	57	11	38	9	29	7	24	6	19	5	16	4	14	3	11	3	10	
11006	20	-	M	VC	C	XC	UC	UC	UC	9	31	6	21	5	15	4	13	3	10	3	9	2	8	1.9	6	1.5	5
	30	-	M	VC	C	VC	XC	UC	UC	12	39	8	26	6	19	5	16	4	13	3	11	3	10	2	8	2	6
	40	M	M	C	C	VC	XC	UC	UC	13	44	9	30	7	22	6	18	4	15	4	13	3	11	3	9	2	7
	50	M	M	M	M	VC	XC	UC	UC	15	50	10	33	7	25	6	21	5	17	4	14	4	12	3	10	2	8
	60	M	M	M	M	VC	XC	UC	UC	16	54	11	36	8	27	7	22	5	18	5	15	4	13	3	11	3	9
	70	-	-	M	M	VC	XC	UC	UC	18	59	12	39	9	29	7	24	6	20	5	17	4	15	4	12	3	10
	80	-	-	M	M	C	VC	XC	UC	19	63	13	42	9	31	8	26	6	21	5	18	5	16	4	13	3	10
90	-	-	F	M	C	VC	XC	UC	20	67	13	44	10	33	8	28	7	22	6	19	5	17	4	13	3	11	
11008	20	-	C	XC	C	XC	UC	UC	UC	12	40	8	26	6	20	5	17	4	13	3	11	3	10	2	8	2	7
	30	-	M	VC	C	VC	XC	UC	UC	14	48	10	32	7	24	6	20	5	16	4	14	4	12	3	10	2	8
	40	M	M	VC	C	VC	XC	UC	UC	17	55	11	37	8	28	7	23	6	18	5	16	4	14	3	11	3	9
	50	M	M	M	M	C	VC	XC	UC	19	62	12	41	9	31	8	26	6	21	5	18	5	15	4	12	3	10
	60	M	M	M	M	VC	XC	UC	UC	20	68	14	45	10	34	9	28	7	23	6	19	5	17	4	14	3	11
	70	M	M	M	M	VC	XC	UC	UC	22	74	15	49	11	37	9	31	7	25	6	21	6	18	4	15	4	12
	80	-	-	M	M	VC	XC	UC	UC	24	78	16	52	12	39	10	33	8</									

# 20" TIP SPACING

## DYNAJET® APPLICATION RATE CHART FOR SYSTEMS EQUIPPED WITH 115880 DYNAJET VALVES

Speed Range Available for  
Various Application Rates -  
20" Tip Spacing

### PWM Nozzle Selection

Application Parameters:

- Application Rate
- Tip Spacing
- Average Field Speed
- Optimum droplet size for chemical mode of action
- Maximum / Minimum field speeds

### TEEJET PWM APPROVED SPRAY TIPS - FULL RANGE OF DROPLET SIZES AVAILABLE

TeeJet offers a variety of spray tips that  
can be used with PWM systems and  
offer the following:

- Single Flat Spray
- Twin Flat Spray
- Air Induction or non-Air Induction
- 02-12 Capacity
- Fine (F) to Ultra Coarse (UC)  
Droplet Size Range

### HOW TO USE THIS CHART:

- 1 Select target application rate - 15 GPA
- 2 Select your maximum ground speed - 15 MPH  
(keep in mind your typical operating speeds)
- 3 Choose a tip and pressure that produce the  
desired droplet size category or categories  
- UC & XC

TIP SIZE	Gauge Pressure PSI	SPRAY TIP SERIES								SPEED RANGE (MPH)																	
		TJ60	XR/XRC	TT	TT160	TT160	TT160	TT	APTJ	5 GPA		7.5 GPA		10 GPA		12 GPA		15 GPA		17.5 GPA		20 GPA		25 GPA		30 GPA	
		Min	Max	Min	Max	Min	Max	Min	Max	Min	Max	Min	Max	Min	Max	Min	Max	Min	Max	Min	Max	Min	Max	Min	Max	Min	Max
11002	20	-	M	VC	VC	XC	UC	UC	UC	2	8	1.7	6	1.2	4	1.0	3	0.8	3	0.7	2	0.6	2	0.5	1.7	0.4	1.4
	30	F	F	C	C	VC	XC	UC	UC	3	10	2	7	1.5	5	1.3	4	1.0	3	0.9	3	0.8	3	0.6	2	0.5	1.7
	40	F	F	M	M	VC	XC	UC	UC	4	12	2	8	1.8	6	1.5	5	1.2	4	1.0	3	0.9	3	0.7	2	0.6	2
	50	F	F	M	M	C	VC	XC	UC	4	13	3	9	2	7	1.6	5	1.3	4	1.1	4	1.0	3	0.8	3	0.7	2
	60	F	F	M	M	C	VC	XC	UC	4	14	3	10	2	7	1.8	6	1.4	5	1.2	4	1.1	4	0.9	3	0.7	2
	70	-	-	M	M	C	VC	XC	UC	5	15	3	10	2	8	2	6	1.5	5	1.3	4	1.2	4	0.9	3	0.8	3
	80	-	-	F	M	C	VC	XC	UC	5	17	3	11	2	8	2	7	1.7	6	1.4	5	1.2	4	1.0	3	0.8	3
90	-	-	F	M	C	VC	XC	UC	5	18	4	12	3	9	2	7	1.8	6	1.5	5	1.3	4	1.1	4	0.9	3	
110025	20	-	M	VC	VC	XC	UC	UC	UC	3	11	2	7	1.6	5	1.3	4	1.1	4	0.9	3	0.8	3	0.6	2	0.5	1.8
	30	-	M	C	C	VC	XC	UC	UC	4	13	3	9	2	7	1.6	5	1.3	4	1.1	4	1.0	3	0.8	3	0.7	2
	40	-	F	M	M	VC	XC	UC	UC	4	15	3	10	2	7	1.9	6	1.5	5	1.3	4	1.1	4	0.9	3	0.7	2
	50	-	F	M	M	VC	XC	UC	UC	5	17	3	11	2	8	2	7	1.7	6	1.4	5	1.2	4	1.0	3	0.8	3
	60	-	F	M	M	C	VC	XC	UC	6	18	4	12	3	9	2	8	1.8	6	1.6	5	1.4	5	1.1	4	0.9	3
	70	-	-	M	M	C	VC	XC	UC	6	20	4	13	3	10	2	8	2	7	1.7	6	1.5	5	1.2	4	1.0	3
	80	-	-	F	M	C	VC	XC	UC	6	21	4	14	3	10	3	9	2	7	1.8	6	1.6	5	1.2	4	1.0	3
90	-	-	F	M	C	VC	XC	UC	7	23	5	15	3	11	3	9	2	8	2	6	1.7	6	1.4	5	1.1	4	
11003	20	-	M	VC	-	-	UC	UC	UC	4	12	2	8	1.9	6	1.6	5	1.2	4	1.1	4	0.9	3	0.7	2	0.6	2
	30	-	M	C	C	XC	XC	UC	UC	5	15	3	10	2	8	2	6	1.5	5	1.3	4	1.2	4	0.9	3	0.8	3
	40	F	F	M	M	VC	XC	XC	UC	5	18	4	12	3	9	2	7	1.8	6	1.5	5	1.3	4	1.1	4	0.9	3
	50	F	F	M	M	VC	XC	XC	UC	6	20	4	13	3	10	2	8	2	7	1.7	6	1.5	5	1.2	4	1.0	3
	60	F	F	M	M	C	VC	XC	UC	6	21	4	14	3	11	3	9	2	7	1.8	6	1.6	5	1.3	4	1.1	4
	70	-	-	M	M	C	VC	VC	XC	7	23	5	15	3	12	3	10	2	8	2	7	1.7	6	1.4	5	1.2	4
	80	-	-	F	M	C	VC	VC	XC	7	24	5	16	4	12	3	10	2	8	2	7	1.8	6	1.5	5	1.2	4
90	-	-	F	M	C	VC	VC	XC	8	26	5	17	4	13	3	11	3	9	2	7	2	7	1.6	5	1.3	4	
11004	20	-	M	VC	-	-	UC	UC	UC	5	16	3	11	2	8	2	7	1.6	5	1.4	5	1.2	4	1.0	3	0.8	3
	30	-	M	C	C	XC	UC	UC	UC	6	20	4	13	3	10	3	8	2	7	1.7	6	1.5	5	1.2	4	1.0	3
	40	F	M	M	C	VC	XC	XC	UC	7	23	5	15	3	12	3	10	2	8	2	7	1.7	6	1.4	5	1.2	4
	50	F	F	M	M	VC	XC	XC	UC	8	26	5	17	4	13	3	11	3	9	2	7	2	7	1.6	5	1.3	4
	60	F	F	M	M	VC	XC	XC	UC	9	29	6	19	4	14	4	12	3	10	2	8	2	7	1.7	6	1.4	5
	70	-	-	M	M	C	VC	VC	XC	9	31	6	21	5	15	4	13	3	10	3	9	2	8	1.9	6	1.5	5
	80	-	-	M	M	C	VC	VC	XC	10	33	7	22	5	16	4	14	3	11	3	9	2	8	2	7	1.6	5
90	-	-	F	M	C	VC	VC	XC	10	34	7	23	5	17	4	14	3	11	3	10	3	9	2	7	1.7	6	
11005	20	-	M	VC	-	-	UC	UC	UC	6	20	4	13	3	10	3	8	2	7	1.7	6	1.5	5	1.2	4	1.0	3
	30	-	M	VC	C	XC	UC	UC	UC	7	24	5	16	4	12	3	10	2	8	2	7	1.8	6	1.5	5	1.2	4
	40	M	M	C	C	XC	XC	UC	UC	9	29	6	19	4	14	4	12	3	10	2	8	2	7	1.7	6	1.4	5
	50	M	F	M	M	VC	XC	XC	UC	10	32	6	21	5	16	4	13	3	11	3	9	2	8	2	6	1.6	5
	60	M	F	M	M	VC	XC	XC	UC	10	34	7	23	5	17	4	14	3	11	3	10	3	9	2	7	1.7	6
	70	-	-	M	M	VC	XC	XC	UC	11	37	7	25	6	19	5	16	4	12	3	11	3	10	2	7	1.9	6
	80	-	-	M	M	C	VC	VC	XC	12	40	8	27	6	20	5	17	4	13	3	12	3	10	2	8	2	7
90	-	-	F	M	C	VC	VC	XC	13	43	9	29	6	21	5	18	4	14	4	12	3	11	3	9	2	7	
11006	20	-	M	VC	-	-	UC	UC	UC	7	23	5	15	3	12	3	10	2	8	2	7	1.7	6	1.4	5	1.2	4
	30	-	M	VC	C	XC	UC	UC	UC	9	29	6	19	4	15	4	12	3	10	2	8	2	7	1.7	6	1.5	5
	40	M	M	C	C	XC	UC	UC	UC	10	33	7	22	5	17	4	14	3	11	3	10	2	8	2	7	1.7	6
	50	M	M	M	M	VC	XC	XC	UC	11	37	7	25	6	19	5	16	4	12	3	11	3	9	2	7	1.9	6
	60	M	M	M	M	VC	XC	XC	UC	12	40	8	27	6	20	5	17	4	13	3	12	3	10	2	8	2	7
	70	-	-	M	M	VC	XC	VC	UC	13	44	9	29	7	22	5	18	4	15	4	13	3	11	3	9	2	7
	80	-	-	M	M	C	VC	VC	XC	14	47	9	31	7	23	6	20	5	16	4	13	4	12	3	9	2	8
90	-	-	F	M	C	VC	VC	XC	15	50	10	33	7	25	6	21	5	17	4	14	4	12	3	10	2	8	
11008	20	-	C	XC	-	-	UC	UC	UC	9	30	6	20	4	15	4	12	3	10	3	8	2	7	1.8	6	1.5	5
	30	-	M	VC	C	XC	UC	UC	UC	11	36	7	24	5	18	5	15	4	12	3	10	3	9	2	7	1.8	6
	40	M	M	VC	C	XC	UC	UC	UC	12	42	8	28	6	21	5	17	4	14	4	12	3	10	2	8	2	7
	50	M	M	M	C	XC	XC	XC	UC	14	46	9	31	7	23	6	19	5	15	4	13	3	12	3	9	2	8
	60	M	M	M	M	VC	XC	XC	UC	15	51	10	34	8	26	6	21	5	17	4	15	4	13	3	10	3	9
	70	M	M	M	M	VC	XC	XC	UC	17	55	11	37	8	28	7	23	6	18	5	16	4	14	3	11	3	9
	80	-	-	M	M	VC	XC	VC	UC	18</																	