CONTROL PRINCIPLE OF ED MOTORS:

The Tacho-Generator on the ED motor shaft will produce a voltage (EI) in proportion to the output speed of the ED motor. This voltage (E1) will then be compared with the speed preset voltage (E2) of the Speecon Control panel which will automatically regulate the current of the exciting coil of the ED Coupling. The ED motor is thus maintained at its predetermined speed.

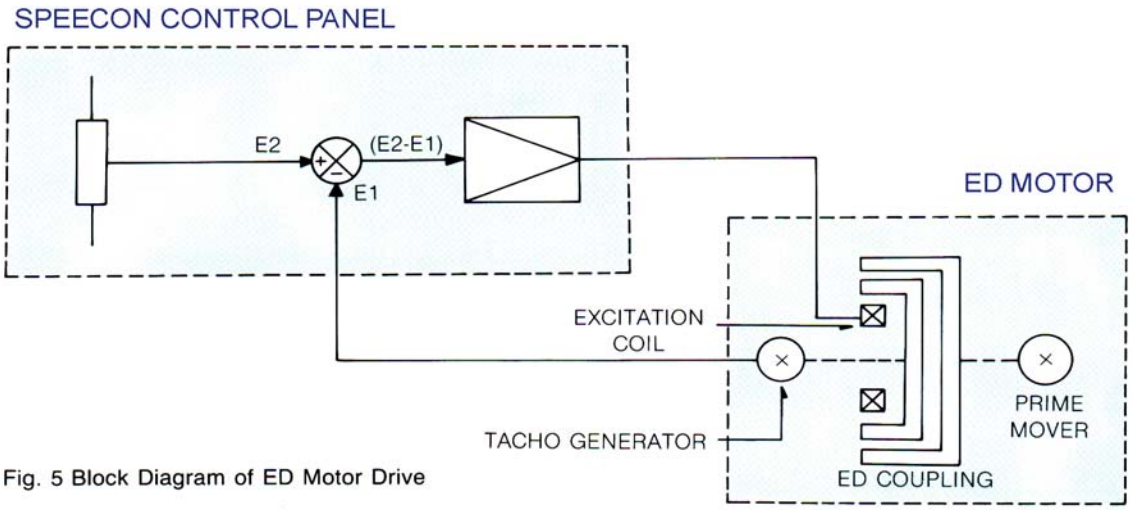
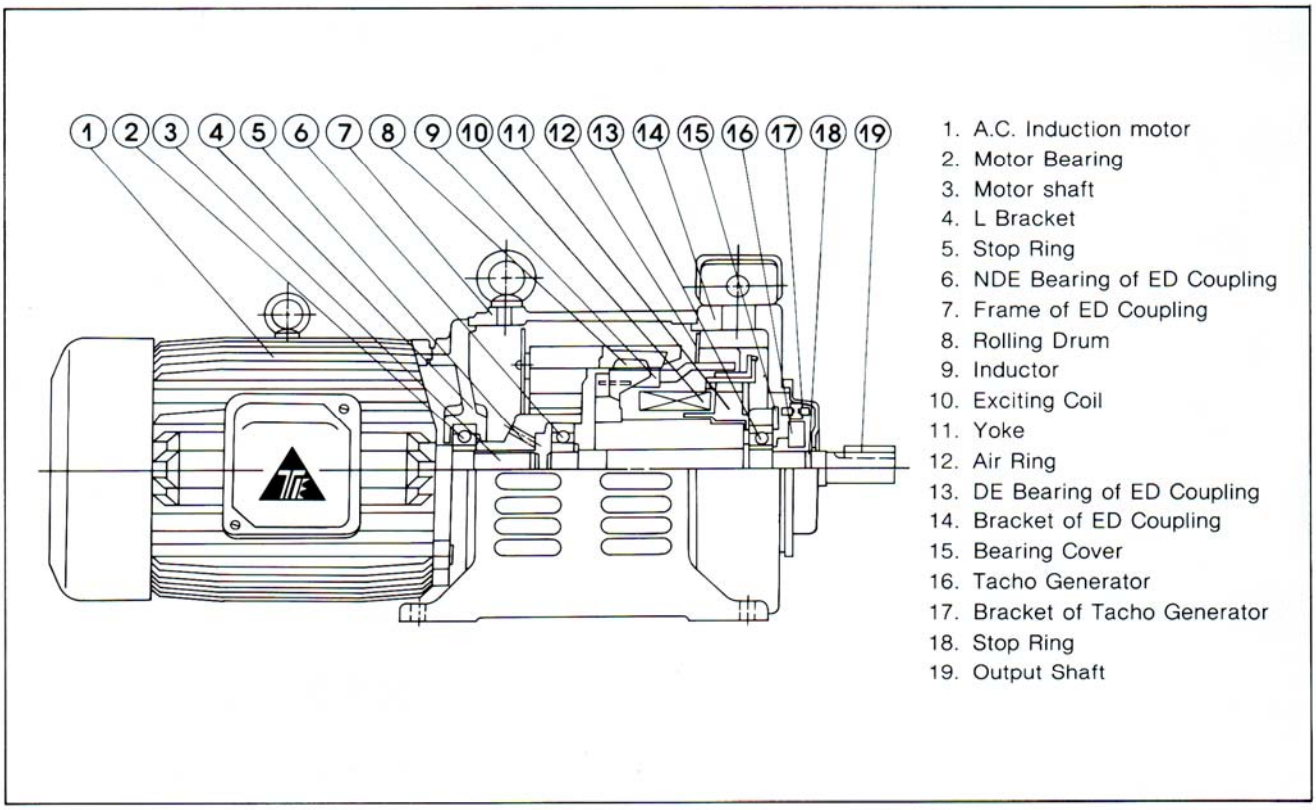


Fig. 5 Block Diagram of ED Motor Drive

CONSTRUCTION



TECO - ED Motor's SPECIFICATION

Model	Frame No.	Drive Motor		Max Output Torque (kg-m)		Speed Control Range		Standard Accessory
		Poles	HP	60Hz	50Hz	60Hz	50hz	Speecon Panel
VSED405B	A-0917B	4	1/3	0.2	0.24	1500-150	1200-120	JVTMBSTER400YN---
VSED41B	A-1020B		1	0.4	0.48			
VSED42B	A-1122B		2	0.8	0.96			
VSED43B	A-1325B		3	1.2	1.44			
VSED45B	A-1427B		5	2.0	2.4			
VSED47B	A-1635B		7 ½	3.0	3.6	1650-150		
VSED410B	A-1635B		10	4.0	4.8			
VSED415B	A-2040B		15	6.0	7.2			

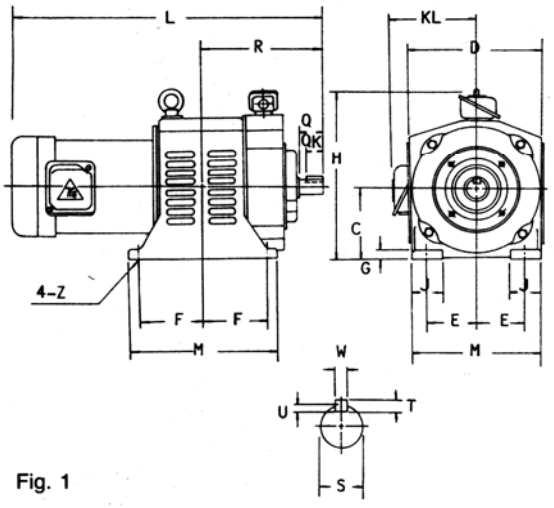


Fig. 1

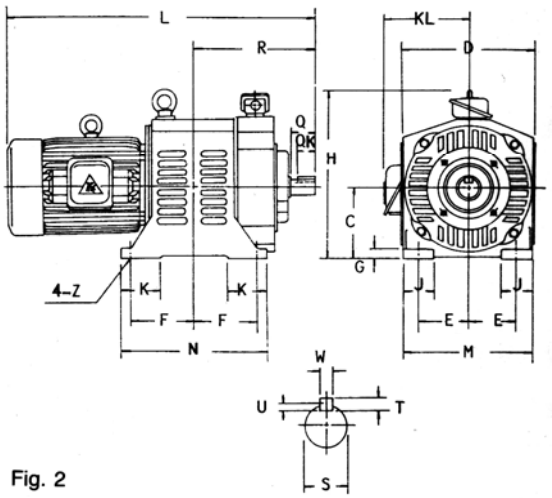


Fig. 2

Dimensions in MM

Model	HP	Frame No	Fig	C	D	E	F	G	H	J	K	KL	L	M	N	R
VSED405B	½	A-0917B		90	200	80	89.0	15	225	40	---	119	453	200	210	182.5
VSED41B	1	A-1020B	1	100	210	80	101.5	15	248	45	---	121	484	210	240	191.5
VSED402B	2	A-1122B		112	230	95	114.0	15	272	50	65	150	575	230	270	221.5
VSED403B	3	A-1325B		132	270	108	127.0	20	311	60	75	173	631	270	300	242.5
VSED405B	5	A-1427B		145	300	127	139.5	20	343	65	85	182	683	300	330	270.0
VSED407B	7 ½	A-1635B	2	160	340	127	178.0	25	390	75	95	218	813	340	425	337.5
VSED410B	10	A-1635B		160	340	127	178.0	25	390	75	95	218	854	340	425	337.5
VSED415B	15	A-2040B		200	400	159	203.0	30	460	85	125	256	977	400	500	372.5

Frame No.	Z	Shaft End						Approx. Weight (kg)
		Q	QK	S	T	U	W	
A-0917B	12	40	25	18	6	3.5	6	28
A-1020B	12	40	25	18	6	3.5	6	35
A-1122B	12	50	35	22	6	3.5	6	58
A-1325B	12	60	45	28	7	4	8	77
A-1427B	15	60	45	28	7	4	8	106
A-1635B	15	80	65	35	8	5	10	175
A-1635B	15	80	65	35	8	5	10	190
A-2040B	19	90	70	42	8	5	12	296
REMARKS 1. Tolerance of Dimension “S” According to (ISA) h6								
2. Tolerance of Dimension “C” +0 -0.5								

TECO - ED Motor's SPECIFICATION

Model	Frame No.	Drive Motor		Max Output Torque (kg-m)		Speed Control Range		Standard Accessory
		Poles	HP	60Hz	50Hz	60Hz	50hz	Speecon Panel
VSED420B	B-2040B		20	8.0	9.6			
VSED425B	A-2246B		25	10.0	12			
VSED430B	B-2246B	4	30	12.0	14.4	1550-140	1200-120	JVTMBSTER400YN---
VSED440B	A-2550B		40	16.2	19.4			
VSED450B	B-2550B		50	20.0	24			

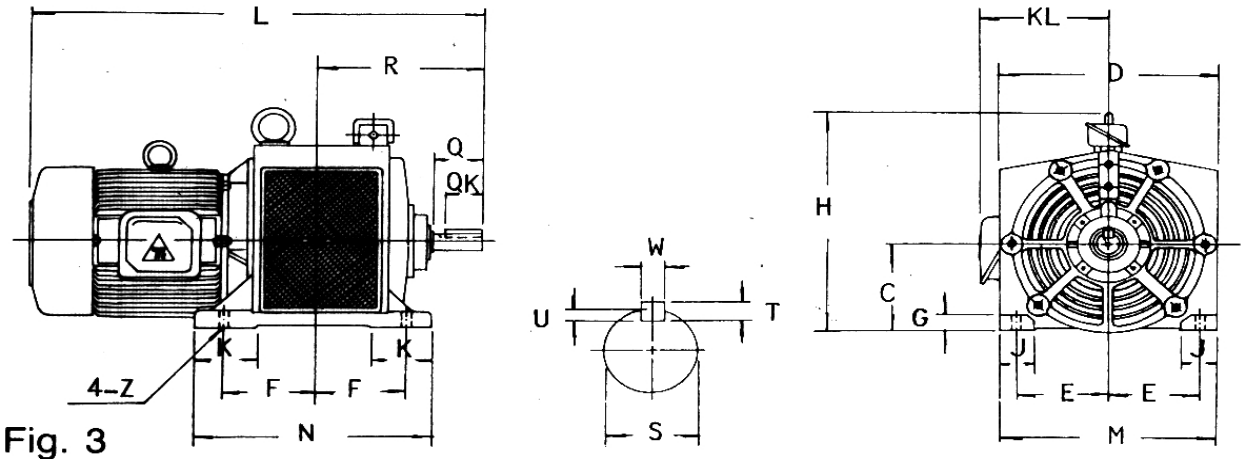


Fig. 3

																Dimensions in MM						
Model	Frame															Shaft End						
	NO.	Fig	C	D	E	F	G	H	J	K	KL	L	M	N	R	Z	Q	QK	S	W	U	T
VSED420B	B-2040B	3	200	440	178.0	203.0	30	490	80	120	256	1035	440	480	360.0	19	110	90	48	14	5.5	9
VSED425B	B-2246B	3	225	490	203.0	228.5	36	575	80	130	301	1060	490	530	382.5	24	110	90	48	14	5.5	9
VSED430B	B-2246B	3	225	490	203.0	228.5	36	575	80	130	301	1098	490	530	382.5	24	110	90	48	14	5.5	9
VSED440B	A-2550B	3	250	540	228.5	254.0	42	628	95	140	334	1216	540	530	438.0	24	140	110	55	16	6	10
VSED450B	B-2550B	3	250	540	228.5	254.0	42	628	95	140	334	1254	540	570	438.0	24	140	110	55	16	6	10
REMARKS: 1. Tolerance of Dimension “S” According to (ISA) h6																						
2. Tolerance of Dimension “C” +0 -1 for 280mm and above																						

TECO - ED Motor's SPECIFICATION

Model	Frame No.	Drive Motor		Max Output Torque (kg-m)		Speed Control Range		Standard Accessory
		Poles	HP	60Hz	50Hz	60Hz	50hz	Speecon Panel
VSED460B	A-3563B		60	24.0	28.8	1650-165	1350-135	
VSED475B	A-3563B	4	75	30.0	35	1600-265	1275-215	
VSED4100B	A-3563B		100	40.0	47	1500-600	1200-600	
VSED650B	A-3563B	6	50	30.0	35	1000-165	800-135	JVTMBSTER400YN---
VSED660B	A-3563B		60	36.0	42	950-315	750-250	
VSED830B	A-3563B		30	24	28.8	750-75	600-60	
VSED840B	A-3563B	8	40	32	38	650-215	500-165	
VSED850B	A-3563B		50	40	47	600-300	450-255	

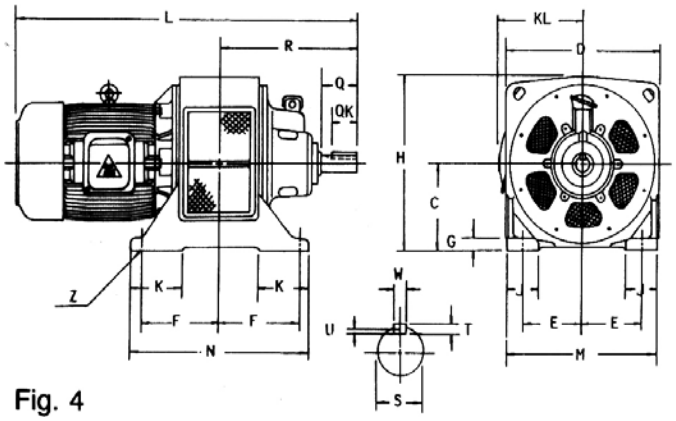


Fig. 4

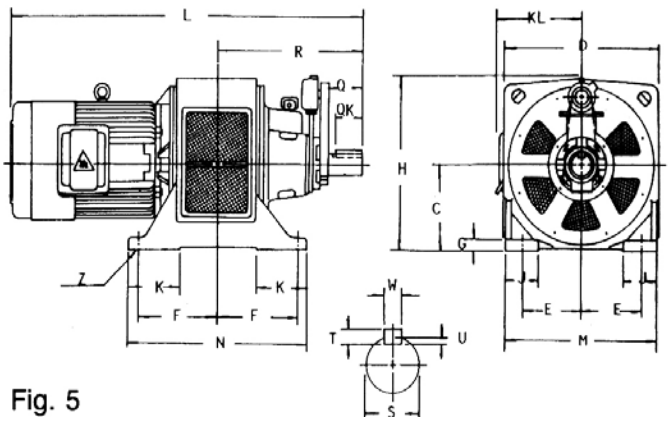


Fig. 5

Dimensions in MM

Model															Shaft End						
	Fig	C	D	E	F	G	H	J	K	KL	L	M	N	R	Z	Q	QK	S	W	U	T
VSED460, 480	3	355	711	265	315	45	725	130	210	377	1480	660	720	564	24	140	110	60	18	7.0	11
VSED475,650,840	3	355	711	265	315	45	725	130	210	377	1480	660	720	564	24	140	110	60	18	7.0	11
VSED660,850	3	355	711	265	315	45	758	130	210	490	1517	660	720	564	24	140	110	75	20	7.5	12
VSED4100	3	355	711	265	315	45	758	130	210	490	1555	660	720	564	24	140	110	75	20	7.5	12
Comments: 1. Tolerance of Dimension “S” According to (ISA) h6																					
2. Tolerance of Dimension “C” +0 -1																					

TECO - ED Motor's SPECIFICATION

Model	Frame No.	Drive Motor		Max Output Torque (kg-m)		Speed Control Range		Standard Accessory
		Poles	HP	60Hz	50Hz	60Hz	50hz	Speecon Panel
VSED4125	3590	4	125	47.0	57	1650-165	1300-130	
VSED4150	3590	4	150	57.0	68	1650-165	1300-130	
VSED675	3590	6	75	40.0	49	1000-100	850-85	
VSED6100	3590	6	100	54.0	65	1000-100	850-85	JVTMBSTER400YN---
VSED860	3590	8	60	40.0	49	700-70	550-55	
VSED875	3590	8	75	50	60	700-70	550-55	

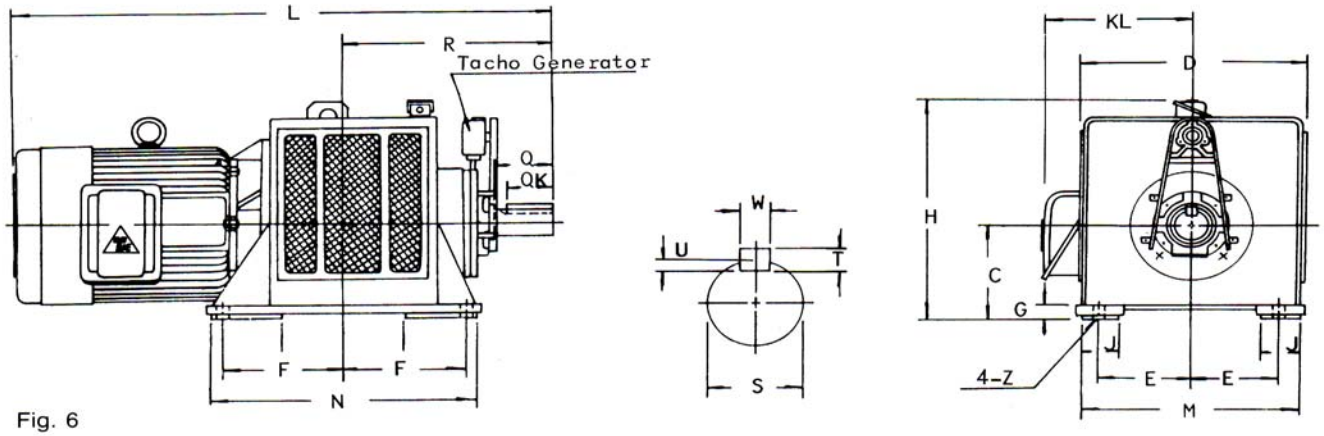


Fig. 6

Dimensions in MM

Model															Shaft End						
	Fig	C	D	E	F	G	H	J	K	KL	L	M	N	R	Z	Q	QK	S	W	U	T
VSED4125	3	355	750	305	450	40	855	150	240	520	1779	730	980	754	28	170	140	85	14	9.0	22
VSED4150	3	355	750	305	450	40	855	150	240	520	1829	730	980	754	28	170	140	85	14	9.0	22
VSED675	3	355	750	305	450	40	855	150	240	490	1760	730	980	754	28	170	140	85	14	9.0	22
VSED6100	3	355	750	305	450	40	855	150	240	520	1779	730	980	754	28	170	140	85	14	9.0	22
VSED860	3	355	750	305	450	40	855	150	240	490	1760	730	980	754	28	170	140	85	14	9.0	22
VSED875	3	355	750	305	450	40	855	150	240	520	1779	730	980	754	28	170	140	85	14	9.0	22

DESCENDING TORQUE-SPEED CURVE

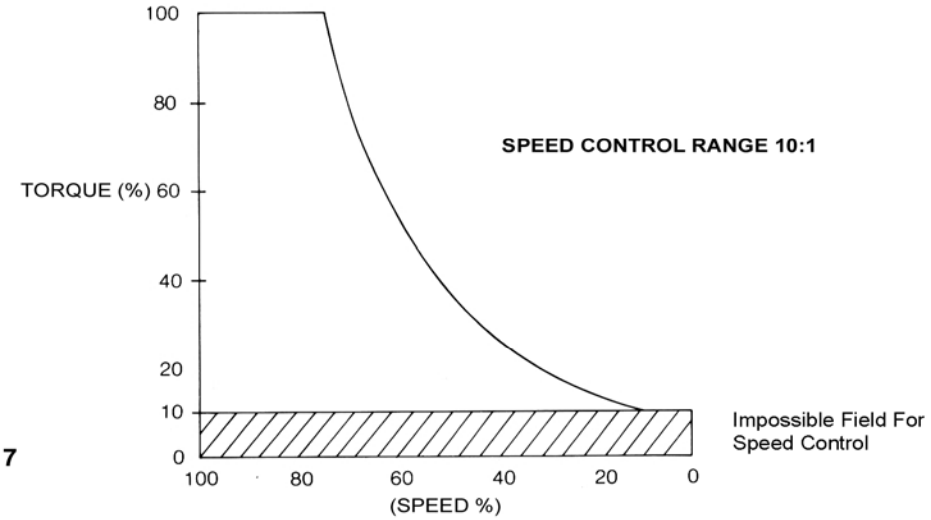
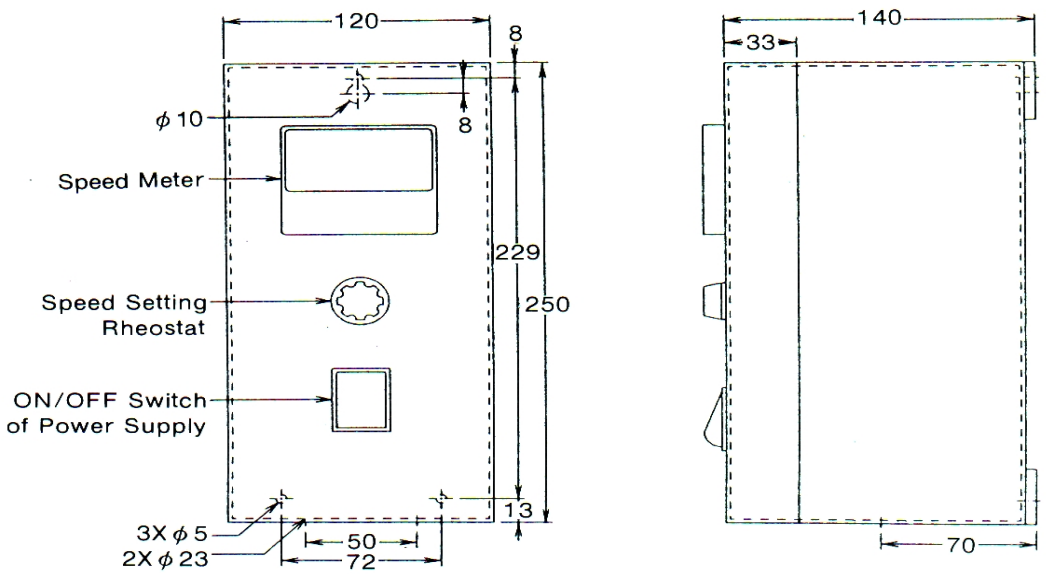


Fig. 7

DIMENSIONS OF SPEECON PANELS

Dimensions In MM

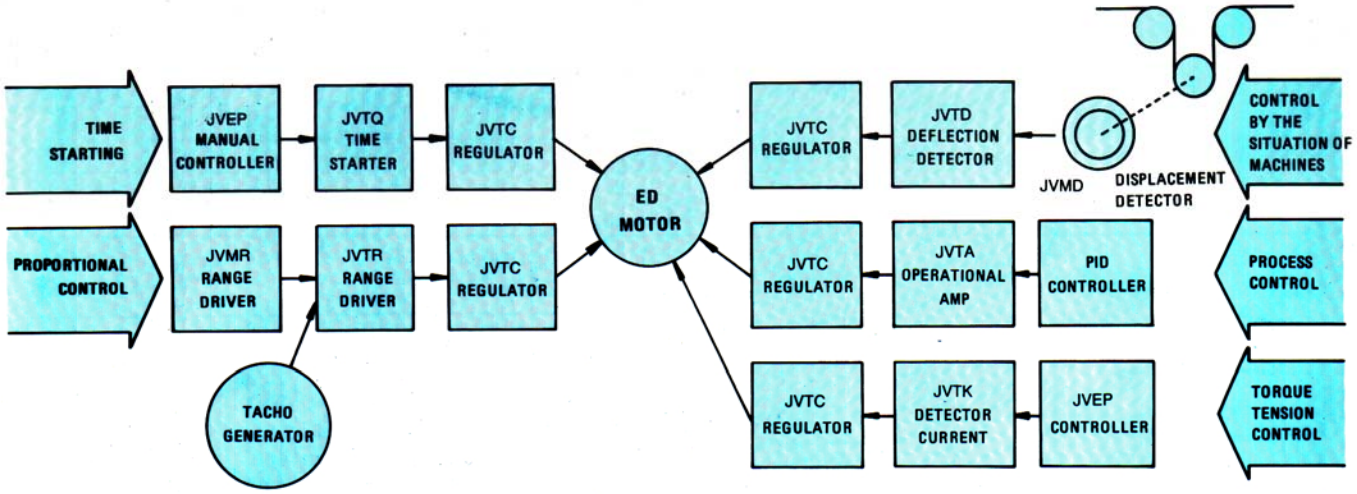


JVTMBSTER 400 YN ---

SPEECON APPLIED SERIES CONTROLLERS

(JVEP) MANUAL CONTROLLER	These units are designed to manually adjust the running speed of E.D. Motors by their speed setting rheostat.
(JVTA) OPERATIONAL AMPLIFIER	This unit converts an output current of PID controllers into a proper Input signal D.C. Voltage as a speed command for E.D. Drives.
(JVMR) (JVTR) RANGE DRIVERS	JVMR is used to set the master speed and JTVR is used on ratio control or sequence interlock control.
(JVTQ) TIME STARTER	This unit prevents circuit devices and process line from being subjected to undesirable electrical or mechanical shock when a rapid speed controlled signal such as “start” or “stop” is applied and converts a signal of a short time limit into a long time limit.
(JVTQ) CURRENT DETECTOR	This unit converts the load current, detected from the ED driving Motor, into a D.C. voltage, suitable for the E.D. Regulator. Thus allowing The drive torque control capability.
(JVMD) DISPLACEMENT DETECTOR (JVTD) DEFLECTION DETECTOR	These units convert mechanical deflection amount, which is detected As A.C. Voltage by syncro for detection of rotating angle, into signal Amount in the form of D.C. Voltage suitable for the ED motor regulator.
(JVAV) MOTOR-OPERATED SPEED SETTING RHEOSTAT	This unit is most suitable where other controllers might encounter Induction interference, because of long distances (1KM or more) between The controller and the ED Motor regulator or where operation is made From more than one location.

APPLICATIONS OF ED MOTORS



*** Cement Industry**
- Speed control of helper drive of rotory kiln
- Proportional speed drives of supply feeders, clinker feeders and air quenching coolers
- Operation of constant weighing feeders
- Exhaust fan or cooler grate drives for pressure control

*** Rubber and Chemcal Industries**
- Calender drive
- Operations of extruder, pelletizer, granulator, ect.
- Operations of feed pump, circulating pump of other process
- Pumps on the outputs of PID regulators

*** Paper Industry**
- Main drive of group drive paper machine
- Starting motor for paper machine
- Helper drive for paper machine
- Driver of rewinder, cutter, ect.
- Pump drive
- Proportional speed drive of hard board corrugating machine

*** Chemical Fiber Industry**
- Coordinate drive of resin finishing machine, slusher, ect.
- Printing machine drive
- Warper drive

*** Utility, Waste Water & Sewage**
- Drive for Cooling Pumps
- Proportional Systems for waste water treatment
- Circulator pump drives
- Drive for fans, blowers, ect

*** Electric Wire Making**
- Operation of tubing machine, extruder, wire winding, ect.
- Torque control of wire drawing machine
- Speed control of cooper casting machine

*** Metal Industry**
- Coordinate drive of strip processing machine
- Helper drive of strip processing machine
- Speed control of electric weld tubemill, rollers
- Operation of winder or rewinder
- Drive of fans and pumps

*** Mining Industry**
- Driver of conveyors, feeders, ect.
- Coordinate drive of strip processing machine
- Helper drive of long distance conveyors
- Excavator drive

*** Other Industries**
- Dredger pump drives
- Drive of bread baking machines
- Operation of fans pumps, blowers, ect
- Conveyor drives
- Main drive for presses and stamping machines
- Machine tool spindle and cutting drives