Prince Standard Products Guide

This product information bulletin is a consolidated reference to the Prince standard product line. Consult the Prince catalog for more detail about these products and information on custom configurations.

Special Note: Prince products can be custom engineered to meet specific application requirements. See page 12 for details.

The "3000 PSI" Rated Tie-Rod Cylinder

FEATURES
- Honed tubing
- Heavy duty, high strength tie rods
- Induction hardened piston rods plated with RoyalPlate Plus® (piston rods on 2" bore not hardened
- Ductile iron piston, butt, gland & clevis
- Urethane u-cup & metal encased wiper 2 1/2" bore & larger models
- Crown seal on piston
- Pins & cotter pins (Hardened pins on 4", 4 1/2" & 5" models
- Standard color is safety yellow
- Stroke control may be installed on 8" strokes (2" - 3.5" bore, A models only)
- Side ports available on request
- Nylon bearing ring on 4", 4 1/2" & 5" bore models
- 3000 PSI continuous operating pressure

Model No.	Style	Wt. LBS.	Retract	Rod Dia.
B200040ABAAA03B	2 X 4	17	14 1/4	1 1/8
B200060ABAAA03B	2 X 6	19	16 1/4	1 1/8
A200080ABAAA03B	2 X 8	21	20 1/4	1 1/8
B200100ABAAA03B	2 X 10	22	20 1/4	1 1/8
B200120ABAAA03B	2 X 12	23	22 1/4	1 1/8
B200140ABAAA03B	2 X 14	25	24 1/4	1 1/8
A200160ABAAA03B	2 X 16	28	31 1/2	1 1/8
B200180ABAAA03B	2 X 18	28	28 1/4	1 1/8
B200200ABAAA03B	2 X 20	30	30 1/4	1 1/8
B200240ABAAA03B	2 X 24	33	34 1/4	1 1/8
B200300ABAAA03B	2 X 30	37	40 1/4	1 1/8
B250060ABAAA03B	2 1/2 X 6	22	16 1/4	1 1/4
A250080ABAAA03B	2 1/2 X 8	25	20 1/4	1 1/4
B250100ABAAA03B	2 1/2 X 10	26	20 1/4	1 1/4
B250120ABAAA03B	2 1/2 X 12	28	22 1/4	1 1/4
B250140ABAAA03B	2 1/2 X 14	30	24 1/4	1 1/4
A250160ABAAA03B	2 1/2 X 16	34	31 1/4	1 1/4
B250180ABAAA03B	2 1/2 X 18	34	28 1/4	1 1/4
B250200ABAAA03B	2 1/2 X 20	36	30 1/2	1 1/4
B250240ABAAA03B	2 1/2 X 24	41	34 1/4	1 1/4
B250300ABAAA03B	2 1/2 X 30	47	40 1/4	1 1/4
B300060ABAAA03B	3 X 6	26	16 1/4	1 3/8
A300080ABAAA03B	3 X 8	29	20 1/4	1 3/8
B300100ABAAA03B	3 X 10	30	20 1/4	1 3/8
B300120ABAAA03B	3 X 12	33	22 1/4	1 3/8
B300140ABAAA03B	3 X 14	35	24 1/4	1 3/8
A300160ABAAA03B	3 X 16	40	31 1/2	1 3/8
B300180ABAAA03B	3 X 18	40	28 1/4	1 3/8
B300200ABAAA03B	3 X 20	42	30 1/4	1 3/8
B300240ABAAA03B	3 X 24	47	34 1/4	1 3/8
B300300ABAAA03B	3 X 30	54	40 1/4	1 3/8
B300360ABAAA03B	3 X 36	61	46 1/4	1 3/8
B300480ABAAA03B	3 X 48	75	58 1/4	1 3/8
A350080ABAAA03B	3 1/2 X 8	35	20 1/4	1 3/8
B350100ABAAA03B	3 1/2 X 10	37	20 1/4	1 3/8
B350120ABAAA03B	3 1/2 X 12	39	22 1/4	1 3/8
B350140ABAAA03B	3 1/2 X 14	42	24 1/4	1 3/8
A350160ABAAA03B	3 1/2 X 16	46	31 1/2	1 3/8
B350180ABAAA03B	3 1/2 X 18	47	28 1/4	1 3/8
B350200ABAAA03B	3 1/2 X 20	49	30 1/4	1 3/8
B350240ABAAA03B	3 1/2 X 24	54	34 1/4	1 3/8
B350300ABAAA03B	3 1/2 X 30	62	40 1/4	1 3/8
B350360ABAAA03B	3 1/2 X 36	69	46 1/4	1 3/8
B350480ABAAA03B	3 1/2 X 48	85	58 1/4	1 3/8
A400080ABACA03B	4 X 8	48	20 1/4	1 3/4
B400100ABACA03B	4 X 10	50	20 1/4	1 3/4
B400120ABACA03B	4 X 12	54	22 1/4	1 3/4
B400140ABACA03B	4 X 14	57	24 1/4	1 3/4
A400160ABACA03B	4 X 16	64	31 1/2	1 3/4
B400180ABACA03B	4 X 18	64	28 1/4	1 3/4
B400200ABACA03B	4 X 20	68	30 1/4	1 3/4
B400240ABACA03B	4 X 24	75	34 1/4	1 3/4
B400300ABACA03B	4 X 30	85	40 1/4	1 3/4
B400360ABACA03B	4 X 36	95	46 1/4	1 3/4
B400480ABACA03B	4 X 48	116	58 1/4	1 3/4

The "3000 PSI" Rated Tie-Rod Cylinder Continued

Model No.	Style	Wt. LBS.	Retract	Rod Dia.
B450080ACDDA03B	4 1/2 X 8	60	20 1/4	2
B450120ACDDA03B	4 1/2 X 12	69	24 1/4	2
B450140ACDDA03B	4 1/2 X 14	74	26 1/4	2
A450160ACDDA03B	4 1/2 X 16	81	31 1/2	2
B450180ACDDA03B	4 1/2 X 18	83	30 1/4	2
B450200ACDDA03B	4 1/2 X 20	87	32 1/4	2
B450240ACDDA03B	4 1/2 X 24	97	36 1/4	2
B450300ACDDA03B	4 1/2 X 30	110	42 1/4	2
B450360ACDDA03B	4 1/2 X 36	124	48 1/4	2
B450480ACDDA03B	4 1/2 X 48	152	60 1/4	2
B500080ACDDA03B	5 X 8	72	20 1/4	2
B500120ACDDA03B	5 X 12	83	24 1/4	2
B500140ACDDA03B	5 X 14	88	26 1/4	2
A500160ACDDA03B	5 X 16	96	31 1/2	2
B500180ACDDA03B	5 X 18	98	30 1/4	2
B500200ACDDA03B	5 X 20	103	32 1/4	2
B500240ACDDA03B	5 X 24	113	36 1/4	2
B500300ACDDA03B	5 X 30	129	42 1/4	2
B500360ACDDA03B	5 X 36	144	48 1/4	2
B500480ACDDA03B	5 X 48	175	60 1/4	2

The "MAJESTIC" Tie-Rod–DA–Medium Duty–2500 PSI

FEATURES
- Honed tubing
- Chromed, ground & polished piston rod will operate at full pressure through 16" stroke
- Ductile iron piston, butt, gland & clevis
- Urethane u-cup & urethane wiper in gland
- Pins, clips & cotters included
- Standard color is red
- Stroke control may be installed on 8" strokes
- Side ports available on request at no additional cost

Model No.	Style	Wt. IBS.	Retract	Rod Dia.
SAE-8404	2 X 4	18	14 1/4	1
SAE-8406	2 X 6	19	16 1/4	1
SAE-8408	2 X 8	20	20 1/4	1
SAE-8410	2 X 10	21	20 1/4	1
SAE-7006	2 1/2 X 6	22	16 1/4	1 1/8
SAE-7008	2 1/2 X 8	23	20 1/4	1 1/8
SAE-7106	3 X 6	24	16 1/4	1 1/8
SAE-7108	3 X 8	26	20 1/4	1 1/8
SAE-7208A	3 1/2 X 8	31	20 1/4	1 1/8
SAE-8608	4 X 8	42	20 1/4	1 1/2
SAE-8610	4 X 10	45	20 1/4	1 1/2
SAE-8208	5 X 8	64	20 1/4	1 3/4
SAE-8210	5 X 10	67	22 1/4	1 3/4

The "3000 PSI" Tie-Rod–DA–Extra Heavy Duty

Model No.	Style	Wt. IBS.	Retract	Rod Dia.
C400080ABDDA03B	4 X 8	50	20 1/4	2
C400160ABDDA03B	4 X 16	68	31 1/2	2
C400240ABDDA03B	4 X 24	81	36 1/4	2

SERIES CYLINDER SYSTEMS–3000 PSI

FEATURES
- Same high quality features found in other tie-rod lines with the addition of a rephase bypass.

Plain Cylinder With Bypass

Bore	Rod Dia.	8" Stroke 20 1/4" Retract	10" Stroke 22 1/4" Retract	12" Stroke 24 1/4" Retract	16" Stroke 28 1/4" Retract
3	1 1/4	AM-2574	AM-2625	AM-2576	AM-2578
3 1/4	1 1/4	AM-2568	AM-2623	AM-2570	AM-2572
3 1/2	1 1/4	AM-2562	AM-2621	AM-2564	AM-2566
3 3/4	1 3/8	AM-2556A	AM-2619A	AM-2558A	AM-2560A
4	1 3/8	AM-2550A	AM-2617A	AM-2552A	AM-2554A
4 1/2	2	AM-2544	AM-2615	AM-2546	AM-2548
4 3/4	1 1/2	AM-2538	AM-2613	AM-2540	AM-2542
5	1 1/2	AM-2532	AM-2611	AM-2534	AM-2536

The “WIZARD” Welded–DA–37º JIC Male Ports 3000 PSI

FEATURES

- Honed tubing
- Chromed, ground & polished rod
- Ductile iron piston & gland
- Optional end fittings available
- Urethane u-cup and wiper
- Crown seal standard, “T” seal optional
- Wear ring on piston
- Thread in gland with o-ring to protect threads
- Standard color is gloss black

Model Code

F 225 243 C S S T X C

All Ports Are JIC 37º Flare, #6 Male Threads Are Standard

Base Model Number Identifies Bore Size Example: 225 Is $2^1/_4$ Bore

Stroke - The First Two Digits Are Inches. The Last Digit Is $^1/_8$'s Of An Inch (Custom Only) Example: 243 is 24 $^3/_8$” Stroke

Piston Seal
- C = Crown Seal
- H = High PSI Teflon Seal
- T = “T” Seal

Rod End Fitting
- C = Clevis
- X = Cross Tube
- N = Blank

Extend Port ..... S = Straight; E = 90º Elbow (Available On Top Ported Models Only)

Retract Port ..... S = Straight; E = 90º Elbow (Available On Top & Side Ported Models)

Port Location ..... T = Top Port (Perpendicular To Pin Hole); S = Side Port (In Line With Pin Hole)

Base End Fitting .... C = Clevis; X = Crosstube; T = Tang; N = Blank

Model No.	Style	Wt. IBS.	Retract	Rod Dia.
F150040	1 1/2 X 4	7	9 1/2	3/4
F150060	1 1/2 X 6	8	11 1/2	3/4
F150080	1 1/2 X 8	8	13 1/2	3/4
F150100	1 1/2 X 10	9	15 1/2	3/4
F150120	1 1/2 X 12	10	17 1/2	3/4
F150160	1 1/2 X 16	10	21 1/2	3/4
F150200	1 1/2 X 20	12	25 1/2	3/4
F150240	1 1/2 X 24	14	29 1/2	3/4
F175040	1 3/4 X 4	9	9 1/2	1
F175060	1 3/4 X 6	10	11 1/2	1
F175080	1 3/4 X 8	11	13 1/2	1
F175100	1 3/4 X 10	12	15 1/2	1
F175120	1 3/4 X 12	13	17 1/2	1
F175160	1 3/4 X 16	15	21 1/2	1
F175200	1 3/4 X 20	17	25 1/2	1
F175240	1 3/4 X 24	20	29 1/2	1
F200040	2 X 4	12	9 1/2	1 1/8
F200060	2 X 6	13	11 1/2	1 1/8
F200080	2 X 8	14	13 1/2	1 1/8
F200100	2 X 10	15	15 1/2	1 1/8
F200120	2 X 12	17	17 1/2	1 1/8
F200160	2 X 16	18	21 1/2	1 1/8
F200200	2 X 20	22	25 1/2	1 1/8
F200240	2 X 24	24	29 1/2	1 1/8
F200300	2 X 30	28	35 1/2	1 1/8
F225040	2 1/4 X 4	14	9 1/2	1 1/4
F225060	2 1/4 X 6	15	11 1/2	1 1/4
F225080	2 1/4 X 8	16	13 1/2	1 1/4
F225100	2 1/4 X 10	18	15 1/2	1 1/4
F225120	2 1/4 X 12	19	17 1/2	1 1/4
F225160	2 1/4 X 16	22	21 1/2	1 1/4
F225200	2 1/4 X 20	25	25 1/2	1 1/4
F225240	2 1/4 X 24	28	29 1/2	1 1/4
F225300	2 1/4 X 30	33	35 1/2	1 1/4
F250040	2 1/2 X 4	15	9 1/2	1 3/8
F250060	2 1/2 X 6	17	11 1/2	1 3/8
F250080	2 1/2 X 8	18	13 1/2	1 3/8
F250100	2 1/2 X 10	20	15 1/2	1 3/8
F250120	2 1/2 X 12	21	17 1/2	1 3/8
F250160	2 1/2 X 16	25	21 1/2	1 3/8
F250200	2 1/2 X 20	29	25 1/2	1 3/8
F250240	2 1/2 X 24	32	29 1/2	1 3/8
F250300	2 1/2 X 30	37	35 1/2	1 3/8
F250360	2 1/2 X 36	43	41 1/2	1 3/8
F275040	2 3/4 X 4	16	9 1/2	1 1/2
F275060	2 3/4 X 6	18	11 1/2	1 1/2
F275080	2 3/4 X 8	20	13 1/2	1 1/2
F275100	2 3/4 X 10	22	15 1/2	1 1/2
F275120	2 3/4 X 12	24	17 1/2	1 1/2
F275160	2 3/4 X 16	28	21 1/2	1 1/2
F275200	2 3/4 X 20	32	25 1/2	1 1/2
F275240	2 3/4 X 24	36	29 1/2	1 1/2
F275300	2 3/4 X 30	42	35 1/2	1 1/2
F275360	2 3/4 X 36	48	41 1/2	1 1/2

The “SWORD” Welded–DA–Heavy Duty–3000 PSI

FEATURES

- Skived/honed tubing
- Heavy duty welded construction
- Chromed, ground & polished piston rod
- Ductile iron piston, gland & clevis, cast steel base end
- Urethane u-cup & urethane wiper in gland, crown seal on piston
- Square ring gland retainer provides positive lock
- Pins, clips & cotters included
- Standard color is white
- Stroke control may be installed on 8” strokes

Model No.	Style	Wt. IBS.	Retract	Rod Dia.
PMC-19408 *	1 1/2 X 8	13	20 1/4	3/4
PMC-19410 *	1 1/2 X 10	14	20 1/4	3/4
PMC-19412 *	1 1/2 X 12	16	22 1/4	3/4
PMC-19416 *	1 1/2 X 16	20	31 1/2	3/4
PMC-42008	2 X 8	19	20 1/4	1 1/8
PMC-42010	2 X 10	20	20 1/4	1 1/8
PMC-42012	2 X 12	22	22 1/4	1 1/8
PMC-42016	2 X 16	25	31 1/2	1 1/8
PMC-42020	2 X 20	28	30 1/4	1 1/8
PMC-42024	2 X 24	31	34 1/4	1 1/8
PMC-42508	2 1/2 X 8	21	20 1/4	1 1/4
PMC-42510	2 1/2 X 10	22	20 1/4	1 1/4
PMC-42512	2 1/2 X 12	23	22 1/4	1 1/4
PMC-42516	2 1/2 X 16	27	31 1/2	1 1/4
PMC-42520	2 1/2 X 20	31	30 1/4	1 1/4
PMC-42524	2 1/2 X 24	35	34 1/4	1 1/4
PMC-43008	3 X 8	23	20 1/4	1 3/8
PMC-43010	3 X 10	26	20 1/4	1 3/8
PMC-43012	3 X 12	28	22 1/4	1 3/8
PMC-43016	3 X 16	33	31 1/2	1 3/8
PMC-43020	3 X 20	39	30 1/4	1 3/8
PMC-43024	3 X 24	43	34 1/4	1 3/8
PMC-43508	3 1/2 X 8	29	20 1/4	1 1/2
PMC-43510	3 1/2 X 10	31	20 1/4	1 1/2
PMC-43512	3 1/2 X 12	33	22 1/4	1 1/2
PMC-43516	3 1/2 X 16	38	31 1/2	1 1/2
PMC-43520	3 1/2 X 20	43	30 1/4	1 1/2
PMC-43524	3 1/2 X 24	48	34 1/4	1 1/2
PMC-44008	4 X 8	40	20 1/4	1 3/4
PMC-44010	4 X 10	43	20 1/4	1 3/4
PMC-44012	4 X 12	45	22 1/4	1 3/4
PMC-44016	4 X 16	54	31 1/2	1 3/4
PMC-44020	4 X 20	58	30 1/4	1 3/4
PMC-44024	4 X 24	60	34 1/4	1 3/4
PMC-44030	4 X 30	65	40 1/4	1 3/4

* Uses formed clevis & 3/4” pin.

The “ROYAL” Welded–Heavy Duty–2500 PSI

FEATURES

- Honed tubing
- Welded construction
- Chromed, ground & polished rod
- Ductile iron piston & gland
- Crosstube end fittings with grease zerks
- Urethane u-cup and urethane wiper in gland
- O-ring with backup washers & cast iron ring piston seals
- Truarc snap ring gland retainer
- Standard color is red
- Rod seal is a urethane u-cup

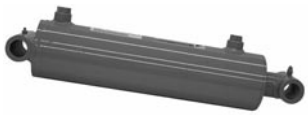
Model No.	Style	Wt. IBS.	Retract	Rod Dia.
PMC-5408	2 1/2 X 8	17	16	1 3/8
PMC-5412	2 1/2 X 12	20	20	1 3/8
PMC-5414	2 1/2 X 14	22	22	1 3/8
PMC-5416	2 1/2 X 16	23	24	1 3/8
PMC-5420	2 1/2 X 20	27	28	1 3/8
PMC-5424	2 1/2 X 24	30	32	1 3/8
PMC-5430	2 1/2 X 30	35	38	1 3/8
PMC-5432	2 1/2 X 32	41	40	1 3/8
PMC-5436	2 3/4 X 36	44	44	1 3/8
PMC-5442	2 3/4 X 42	47	50	1 3/8
PMC-8308	3 X 8	22	16	1 1/2
PMC-8312	3 X 12	26	20	1 1/2
PMC-8314	3 X 14	29	22	1 1/2
PMC-8316	3 X 16	31	24	1 1/2
PMC-8320	3 X 20	35	28	1 1/2
PMC-8324	3 X 24	41	32	1 1/2
PMC-8330	3 X 30	46	38	1 1/2
PMC-8332	3 X 32	48	40	1 1/2
PMC-8336	3 X 36	52	44	1 1/2
PMC-8340	3 X 40	56	48	1 1/2
PMC-8342	3 X 42	59	50	1 1/2
PMC-8348	3 X 48	65	56	1 1/2

The “ROYAL” Welded–Heavy Duty–Continued.....

Model No.	Style	Wt. IBS.	Retract	Rod Dia.
PMC-5508	3 1/2 X 8	26	16	1 1/2
PMC-5512	3 1/2 X 12	29	20	1 1/2
PMC-5514	3 1/2 X 14	32	22	1 1/2
PMC-5516	3 1/2 X 16	34	24	1 1/2
PMC-5520	3 1/2 X 20	38	28	1 1/2
PMC-5524	3 1/2 X 24	44	32	1 1/2
PMC-5530	3 1/2 X 30	48	38	1 1/2
PMC-5532	3 1/2 X 32	52	40	1 1/2
PMC-5536	3 1/2 X 36	56	44	1 1/2
PMC-5540	3 1/2 X 40	60	48	1 1/2
PMC-5542	3 1/2 X 42	64	50	1 1/2
PMC-5548	3 1/2 X 48	70	56	1 1/2
PMC-5608	4 X 8	35	17	2
PMC-5612	4 X 12	41	21	2
PMC-5614	4 X 14	45	23	2
PMC-5616	4 X 16	48	25	2
PMC-5620	4 X 20	56	29	2
PMC-5624	4 X 24	62	33	2
PMC-5630	4 X 30	72	39	2
PMC-5632	4 X 32	74	41	2
PMC-5636	4 X 36	80	45	2
PMC-5640	4 X 40	85	49	2
PMC-5642	4 X 42	92	51	2
PMC-5648	4 X 48	100	57	2
PMC-5660	4 X 60	120	69	2

The “FORTRESS” Welded–DA–Heavy Duty–3000 PSI

FEATURES
- Heavy duty welded construction
- Chromed, ground, and polished piston rod
- Skived tubing
- Ductile iron piston
- Thread-in ductile iron gland
- Urethane u-cup, metal encased wiper, teflon cap seal and wear ring
- Crosstube end fittings with grease zerks
- Painted: highway yellow
- Matches closed length of Royal line cylinders (up to 42” stroke)



Model No.	Style	Wt. IBS.	Retract	Rod Dia.
SAE-64008	4 X 8	42	17	2
SAE-64012	4 X 12	48	21	2
SAE-64016	4 X 16	55	25	2
SAE-64020	4 X 20	62	29	2
SAE-64024	4 X 24	69	33	2
SAE-64030	4 X 30	79	39	2
SAE-64032	4 X 32	83	41	2
SAE-64036	4 X 36	90	45	2
SAE-64040	4 X 40	96	49	2
SAE-64042	4 X 42	100	51	2
SAE-64048*	4 X 48	115	59	2
SAE-64060*	4 X 60	138	73	2
SAE-64508	4 1/2 X 8	54	17	2 1/4
SAE-64512	4 1/2 X 12	62	21	2 1/4
SAE-64516	4 1/2 X 16	71	25	2 1/4
SAE-64520	4 1/2 X 20	80	29	2 1/4
SAE-64524	4 1/2 X 24	89	33	2 1/4
SAE-64530	4 1/2 X 30	104	39	2 1/4
SAE-64532	4 1/2 X 32	106	41	2 1/4
SAE-64536	4 1/2 X 36	115	45	2 1/4
SAE-64540	4 1/2 X 40	124	49	2 1/4
SAE-64542	4 1/2 X 42	128	51	2 1/4
SAE-64548*	4 1/2 X 48	147	59	2 1/4
SAE-64560*	4 1/2 X 60	177	73	2 1/4

*** Spacers included in these models**

The “GLADIATOR” Welded–DA–Heavy Duty–3000 PSI

FEATURES
- Heavy duty welded construction
- Externally threaded gland cap
- Chromed, ground, and polished piston rod
- Skived tubing
- Ductile iron piston
- Urethane u-cup, metal encased wiper, polyurethane crown seal and wear ring
- Crosstube end fittings with grease zerks
- Painted: highway yellow
- Matches closed length of Royal line cylinders (up to 42” stroke)

Model No.	Style	Wt. IBS.	Retract	Rod Dia.
PMC-21008	5 X 8	75	19	2 1/2
PMC-21012	5 X 12	85	23	2 1/2
PMC-21016	5 X 16	90	27	2 1/2

The “GLADIATOR” Welded–DA–Heavy Duty–3000 PSI

Model No.	Style	Wt. IBS.	Retract	Rod Dia.
PMC-21020	5 X 20	105	31	2 1/2
PMC-21024	5 X 24	115	35	2 1/2
PMC-21030	5 X 30	130	41	2 1/2
PMC-21036	5 X 32	145	47	2 1/2
PMC-21048*	5 X 36	180	61	2 1/2
PMC-21054*	5 X 40	195	68	2 1/2
PMC-21060*	5 X 42	215	75	2 1/2
PMC-22008	6 X 8	100	19	3
PMC-22012	6 X 12	110	23	3
PMC-22016	6 X 16	125	27	3
PMC-22024	6 X 20	150	35	3
PMC-22030	6 X 24	170	41	3
PMC-22036	6 X 30	190	47	3
PMC-22048*	6 X 32	240	61	3
PMC-22054*	6 X 36	265	68	3
PMC-22060*	6 X 40	290	75	3

*** Spacers included in these models**

SP SERIES HYDRAULIC SINGLE GEAR PUMPS

Model Code

SP20B 14 A 9 H 2–R

Series No.
Displacement Code (cc/rev)
Port Location
A-Side Inlet and Outlet
C-Both Side and Rear W/Steel Plugs
D-Rear Inlet and Outlet
E-Both Side and Rear W/Plastic Plugs
Port Type
9-Standard Ports - As Indicated
Optional ports consult factory side port only
8-Metric O-Ring
7-BSPP
6-SAE Split Flange 16-33 CC Only
5-Metric Split Flange 16-33 CC Only
Mounting
H-SAE “A” 2 bolt
Drive Shaft
9-SAE 9 Tooth 16/32 Spline
2-SAE 5/8” Straight Keyed
3-11 Tooth 16/32 Spline*
4-3/4” Straight Keyed*
5 -SAE 10 Tooth 16/32 Spline
Rotation (facing end of shaft)
L-Counter Clockwise
R-Clockwise Drive Shaft

*Required for displacement codes 30 and 33

Model Code

SP25A 38 A 9 H 1–R

Series No.
Displacement Code (cc/rev)
Port Location
A-Side Inlet and Outlet
C-Both Side and Rear W/Steel Plugs
D-Rear Inlet and Outlet
E-Both Side and Rear W/Plastic Plugs
Port Type
9-Standard
Mounting
H-SAE “A” 2 bolt
Drive Shaft
1-SAE 13 Tooth 16/32 Spline
2-SAE 5/8” Straight Keyed
Rotation (facing end of shaft)
L-Counter Clockwise
R-Clockwise Drive Shaft

Model No.	Displ. In³/rev	Rated Pressure	Max. RPM
SP20B06	.400	3000	4000
SP20B08	.499	3000	4000
SP20B09	.589	3000	4000
SP20B11	.677	3000	4000
SP20B14	.860	3000	4000
SP20B16	.976	3000	4000
SP20B20	1.220	3000	3500
SP20B23	1.403	2500	3500
SP20B27	1.654	2500	3500
SP20B30	1.881	2500	3500
SP20B33	2.014	2500	3500
SP25A19	1.141	3000	3000
SP25A22	1.349	3000	3000
SP25A27	1.660	3000	3000
SP25A32	2.008	3000	3000
SP25A38	2.318	3000	3000
SP25A44	2.697	3000	3000
SP25A52	3.179	2500	3000
SP25A63	3.869	2500	3000

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SP 20B and SP 25A GEAR PUMPS Continued

FEATURES

- Patented Non-Symmetrical Gears The adoption of non-symmetrical gears insures greater power per unit volume compared with pumps of conventional design. The compact gear compartment has enabled high-pressure operation. The increased number of gear teeth has reduced the flow pulsation and minimized the noise.

U.S.A.	Patent No.	3817117
U.K.	Patent No.	1400577
French	Patent No.	7230448
German	Patent No.	7231801

Others: Pending

- Bearings PTFE composite bearings are used do to the ability to handle heavy loads, low shaft speeds, and high levels of contamination. Engineering tests on the PTFE bearings indicate they will withstand bearing loads over twice as high as conventional steel backed aluminum bearings used in many pumps. The PTFE resin layer will absorb a high degree of contamination without damage to the pump. Also since the PTFE layer is self lubricating, contamination from bearing wear in high load situations (when no oil film is present) is reduced. The side benefit from reduced friction under all conditions is a reduced consumption of power.
- Gears and drive shaft are hardened alloy steel of one piece of construction.
- Special gear design: Non-symmetrical gear insures low noise and compactness.
- Highest Quality Workmanship.
- Pressures Up To 3000 PSI
- Dependable service: Balanced pressure loading insures small dispersion, good durability and maintains high performance.
- Extremely Efficient.
- Perfect alignment: “Through bore” design provides perfect alignment of pump element and assures even bearing load.
- With the aluminum alloy casing, the SP Series features light weight and easy handling.
- Double pumps: Available in SP20, SP25 and SP25/SP20 Combinations.
- Maximum speed from 3000 to 4000 RPM using SAE 10W oil.
- Displacement covers .400 in3/rev. to 3.869 in3/rev.
- Inlet pressure: Pump inlet should not exceed 5 in. of mercury vacuum or 14 PSI positive pressure.
- Ports: SAE straight thread O-ring boss for SP20 & SP25. Other Ports available - consult factory. (Taper pipe threads not available)
- Working oil: A mineral based oil with additives to resist corrosion, oxidation, and foaming is recommended. Viscosity at any running condition should be 60 SUS minimum and 250 SUS maximum.
  180º F is the maximum recommended system operating temperature.
- Filtration: Per ISO cleanliness code level 17/14. As a minimum, 10 micron filtration is recommended.

SPD1 SERIES HYDRAULIC DOUBLE GEAR PUMPS

The SPD1 series of double pumps consists of two SP20B pump sections. The typical performance of each section and the features of the pump are the same as indicated for the SP20B series of pumps.

Model Code

SPD1B 16 09 – 1 H 9 L

Model No.
Front Pump (shaft end) Displacement Code (see chart)
Rear Pump Displacement Code (see chart)
Inlet Code
1: Common Inlet (no rear inlet)
2: Separate Inlet (inlets-both sections)

Mounting
H-2 Bolt “A” Flange

Drive Shaft Code:*
9-SAE 9 Tooth 16/32 Spline
2-SAE 5/8” Straight Keyed
3-11 Tooth 16/32 Spline
4-3/4” Straight Keyed

Rotation: (Facing end of shaft)
L-Counter Clockwise
R-Clockwise

*Pumps with nonstandard shafts available in minimum quantities.

SPD1 SERIES DOUBLE GEAR PUMPS – Continued.....

SPD1 SERIES DOUBLE PUMPS

Model Number	Displacement In³/Rev Front	Displacement In³/Rev Rear	Maximum Pressure PSI Front	Maximum Pressure PSI Rear	Maximum Speed RPM
SPD1B0808	0.499	0.499	3000	3000	3500
SPD1B0908	0.589	0.499	3000	3000	3500
SPD1B0909	0.589	0.589	3000	3000	3500
SPD1B1108	0.677	0.499	3000	3000	3500+
SPD1B1109	0.677	0.589	3000	3000	3500+
SPD1B1111	0.677	0.677	3000	3000	3500+
SPD1B1408	0.860	0.499	3000	3000	3500
SPD1B1409	0.860	0.589	2800*	2800*	3500
SPD1B1411	0.860	0.677	2600*	2800*	3500
SPD1B1414	0.860	0.860	2400*	2400*	3500
SPD1B1608	0.976	0.499	2800*	2800*	3500
SPD1B1609	0.976	0.589	2600*	2600*	3500
SPD1B1611	0.976	0.677	2400*	2600*	3500
SPD1B1614	0.976	0.860	2200*	2400*	3500
SPD1B1616	0.976	0.976	2000*	2200*	3500+
SPD1B2008	1.220	0.499	2400*	2400*	3500
SPD1B2009	1.220	0.589	2200*	2400*	3500
SPD1B2011	1.220	0.677	2200*	2200*	3500
SPD1B2014	1.220	0.860	2000*	2000*	3500
SPD1B2016	1.220	0.976	1800*	2000*	3500+
SPD1B2020	1.220	1.220	1600*	1800*	3500+
SPD1B2308	1.403	0.499	2200*	2200*	3500
SPD1B2309	1.403	0.589	2000*	2200*	3500
SPD1B2311	1.403	0.677	2000*	2000*	3500
SPD1B2314	1.403	0.860	1800*	2000*	3500
SPD1B2316	1.403	0.976	1800*	1800*	3500
SPD1B2320	1.403	1.220	1600*	1600*	3500+
SPD1B2323	1.403	1.403	1400*	1600*	3500+
SPD1B2708	1.654	0.499	1800*	2000*	3500
SPD1B2709	1.654	0.589	1800*	2000*	3500
SPD1B2711	1.654	0.677	1800*	1800*	3500
SPD1B2714	1.654	0.860	1600*	1800*	3500
SPD1B2716	1.654	0.976	1600*	1600*	3500
SPD1B2720	1.654	1.220	1400*	1600*	3500+
SPD1B2723	1.654	1.403	1400*	1400*	3500+
SPD1B2727	1.654	1.654	1200*	1400*	3500+

* Different pressure combinations may be used if required provided they conform to the following equation PF x DF + PR x DR < 4150 where PF and PR are the operating pressures (psi) and DF and DR are the displacements (cu in/rev) for the front and rear pumps respectively (maximum pressures are 3000 psi for displacement codes 8 -20 and 2500 psi for displacement codes 23 - 27). Optional drive shafts available for higher pressure combinations. Consult factory.

+ Common inlet pumps require a reduction in maximum rpm. Consult factory.

SPD2 SERIES HYDRAULIC DOUBLE GEAR PUMPS

The SPD2 series of pumps are special SP-25A series pumps with through shafts. The through shafts have 9 tooth internal splines at the rear and the pump’s rear cover has an integral SAE A-2 bolt mount pad. For double pump operation, a standard SAE A-2 bolt-splined shaft pump can be directly mounted on the rear on the SPD2. Typical performance of the pump is the same as indicated for the SP-25A series pump.

SPD2 THROUGH SHAFT PUMPS
(PLUG-IN STYLE DOUBLE PUMPS)

Model Number	Displacement IN³/REV	Rated* Pressure (PSI)	MAX RPM
SPD219	1.141	3000	3000
SPD222	1.349	3000	3000
SPD227	1.660	3000	3000
SPD232	2.008	3000	3000
SPD238	2.318	3000	3000
SPD244	2.697	3000	3000
SPD252	3.179	2500	3000
SPD263	3.869	2500	3000

*Maximum operating pressure may be decreased depending on the displacement and operating pressure of the rear pump. The combination must conform to the following equation PF X DF + PR X DR < 13200 where PF and PR are the operation pressures (PSI) and DF and DR are the displacements (in3/rev) for the front and rear pumps respectively.

Model Code

SPD2 27 A 9 H 1 – L

Model No.
Displacement Code: (see chart)
Port Location:
A: Side-Inlet and Outlet
Port Type:
Standard -As Indicated

Mounting
H-2 Bolt “B” Flange

Drive Shaft: (See SP-25A Series for Specifications)
1-SAE 13 Tooth 16/32 Spline
2-SAE 7/8” Straight Keyed

Rotation: (Facing end of shaft)
L-Counter Clockwise
R-Clockwise

SPD3 SERIES HYDRAULIC DOUBLE GEAR PUMPS

The SPD3 series of double pumps consists of two SP-25A pump sections. The typical performance of each section and the features of the pump are the same as indicated for the SP-25A series of pumps.

Model Code

SPD3 44 22 – 1 H 1 L

Model No.
Front Pump
(shaft end)
Displacement Code
(see chart)
Rear Pump
Displacement Code
(see chart)
Inlet Code
1: Common Inlet (no rear inlet)
2: Separate Inlet (inlets-both sections)

Mounting
H-2 Bolt "B" Flange

Drive Shaft Code:
1-SAE 13 Tooth 16/32 Spline
2-SAE 7/8" Straight Keyed

Rotation: (Facing end of shaft)
L-Counter Clockwise
R-Clockwise

SPD3 SERIES DOUBLE PUMPS

Model Number	Displacement In³/Rev Front	Displacement In³/Rev Rear	Maximum Pressure PSI Front	Maximum Pressure PSI Rear	Maximum Speed RPM
SPD3 19 19	1.141	1.141	3000	3000	3000
SPD3 22 19	1.349	1.141	3000	3000	3000
SPD3 22 22	1.349	1.349	3000	3000	3000
SPD3 27 19	1.660	1.141	3000	3000	3000
SPD3 27 22	1.660	1.349	3000	3000	3000
SPD3 27 27	1.660	1.660	3000	3000	3000
SPD3 32 19	2.008	1.141	3000	3000	3000
SPD3 32 22	2.008	1.349	3000	3000	3000
SPD3 32 27	2.008	1.660	3000	3000	3000
SPD3 32 32	2.008	2.008	3000	3000	3000
SPD3 38 19	2.318	1.141	3000	3000	3000
SPD3 38 22	2.318	1.349	3000	3000	3000
SPD3 38 27	2.318	1.660	3000	3000	3000
SPD3 38 32	2.318	2.008	3000	3000	3000
SPD3 38 38	2.318	2.318	3000	2700*	3000
SPD3 44 19	2.697	1.141	3000	3000	3000
SPD3 44 22	2.697	1.349	3000	3000	3000
SPD3 44 27	2.697	1.660	3000	3000	3000
SPD3 44 32	2.697	2.008	2900*	2700*	3000
SPD3 44 38	2.697	2.318	2800*	2500*	3000+
SPD3 44 44	2.697	2.697	2600*	2300*	3000+
SPD3 52 19	3.179	1.141	2500	3000	3000
SPD3 52 22	3.179	1.349	2500	3000	3000
SPD3 52 27	3.179	1.660	2500	3000	3000
SPD3 52 32	3.179	2.008	2500*	2500*	3000
SPD3 52 38	3.179	2.318	2300*	2500*	3000+
SPD3 52 44	3.179	2.697	2100*	2400*	3000+
SPD3 52 52	3.179	3.179	2000*	2100*	3000+
SPD3 63 19	3.869	1.141	2500*	2900*	3000
SPD3 63 22	3.869	1.349	2500*	2500*	3000
SPD3 63 27	3.869	1.660	2300*	2500*	3000
SPD3 63 32	3.869	2.008	2100*	2500*	3000+
SPD3 63 38	3.869	2.318	2000*	2300*	3000+
SPD3 63 44	3.869	2.697	1900*	2100*	3000+
SPD3 63 52	3.869	3.179	1700*	2000*	3000+
SPD3 63 63	3.869	3.869	1500*	1800*	3000+

* Different pressure combinations may be used if required provided they conform to the following equation PF x DF + PR x DR < 13200 where PF and PR are the operating pressures (PSI) and DF and DR are the displacements (cu in/rev) for the front and rear pumps respectively (maximum pressures are 3000 psi for displacement codes 19 - 44 and 2500 PSI for displacement codes 52 - 63). Consult factory.

+ Common inlet pumps require a reduction in maximum rpm. Consult factory.

PTO HYDRAULIC PUMPS–Up to 2250 PSI–Up to 40 GPM

IDEAL FOR USE WITH.....
- Tractor front end loaders
- Cotton balers (module builders)
- Rotary Mowers
- Pull-type cotton pickers
- Landscape equipment
- Street Sweepers
- Tractors imported without integral hydraulics

PTO HYDRAULIC PUMPS–Up to 2250 PSI–Up to 40 GPM

FEATURES

- Self-adjusting wear plates on both sides of the gears.
- Proper size hose adapters are provided for inlet ports.
- Two outlet ports are provided with a NPT adapter for one port and a plug to seal unused port.
- Center section available in high strength aluminum alloy for standard duty cycle or in high strength cast iron for high duty cycle use.
- Roller Bearings
- Run fitted body
- Internally splined drive shaft.
- High-tensile cast iron end plates.
- Slips onto tractor PTO shaft (no gear box required).
- Two-bolt installation on farm tractors of all sizes.

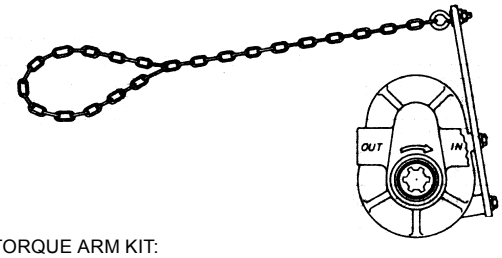
Aluminum Center Housing PTO Pumps

Model No.	GPM	RPM
HC-PTO-1A	21	540
HC-PTO-2A	11.4	540
HC-PTO-3A	22.4	1000
HC-PTO-7A	7.1	540
HC-PTO-8A	13.5	1000
HC-PTO-9A	17.1	540
HC-P-K11	40	1000

Cast Iron Center Housing PTO Pumps

Model No.	GPM	RPM
HC-PTO-1AC	21	2500
HC-PTO-2AC	11.4	2500
HC-PTO-3AC	22.4	2500
HC-PTO-8AC	13.5	3000
HC-P-K11C	21	3000

TORQUE ARM KIT FOR PTO PUMPS



PUMP TORQUE ARM KIT:
The 180900877 torque arm kit was designed to simplify Prince PTO pump installation by eliminating the need to fabricate a custom torque arm. Items included in the kit are:

1-Torque arm
2-3/8-16 mounting bolts
1-Eye bolt/chain assembly

NOTE THAT TORQUE ARM KIT NO. 180900877 FITS ALL MODEL PTO PUMPS

PRINCE HAND PUMP–1000-3000 PSI

FEATURES

The Prince Hand Pump offers definite advantages over similar components of higher cost. The pump has unique design features which insure versatility. The handle can be used in (2) positions. The pump can be mounted vertically and horizontally. There are (3) different volume and pressure settings.

Position 1: 1.25 cu. in. per stroke—1500 psi*
Position 2: .95 cu. in. per stroke—2000 psi*
Position 3: .60 cu. in. per stroke—3000 psi*

*At applied force of 60-65 lbs. on handle.
(Pressure to 6,000 psi can be developed with more force)

Model No.	Wt.	Reservoir size
PM-HP-10-B	30 lbs.	1 Gallon
PM-HP-10-B	27 lbs.	1/2 Gallon

Used for 1,000-3,000 PSI

ADM SERIES GEROTOR MOTOR–LOW SPEED–HIGH TORQUE

FEATURES

- Fully reversible simply by reversing the direction of hydraulic fluid flow.
- Alternative port positioning for versatility of installation.
- Optional shaft configurations.
- Modular construction for economical servicing and repair, also permits special adaptations.

FILTRATION

10 micron or finer. (Per ISO cleanliness code level 17/14.

The Prince **ADM Series** of high-torque, low speed motors incorporates the orbiting gerotor principle for dependable operation over a wide range of applications. Although dimensionally small, this motor is capable of providing considerable power over a wide speed range and is instantly reversible by simply reversing the direction of the hydraulic fluid flow. The needs of many applications requiring high starting, stall and running torque combined with slow speed are met by this motor.

ADM	Displacement CC/REV	Displacement CU. IN/REV	Maximum Pressure PSI CONT	Maximum Pressure PSI INTº	Maximum Pressure Kgf/CM2 CONT	Maximum Pressure Kgf/CM2 INTº	Maximum Speed RPM CONT	Maximum Speed RPM INTº
50	49.1	3.0	1400	2200	98	153	800	1000
75	76.6	4.7	1400	2100	98	146	750	950
100	99.6	6.1	1300	2000	91	139	600	750
150	153.2	9.3	1200	1900	84	132	400	500
200	199.2	12.2	1200	1800	84	125	300	400
250	252.8	15.3	1100	1700	77	118	250	325
300	293.2	17.9	1000	1600	70	111	200	250
400	398.4	24.4	900	1300	63	90	125	160

MODEL RD-400 FIXED FLOW PRIORITY DIVIDER and MODEL RD-400R FIXED FLOW PRIORITY DIVIDER WITH PRIORITY PRESSURE RELIEF

The PRINCE model RD-400 is a constant volume priority divider. It can be used in applications where two circuits are to be supplied by a single pump such as power steering systems. In operation the flow of oil supplied to the inlet is divided into two flows, the priority flow and the excess flow. The priority flow will remain nearly constant with variations in pressure on either the priority or excess flow port and will also remain nearly constant with variations in the inlet flow.

The priority flow GPM is determined by a fixed orifice inside the main spool. The desired priority GPM must be specified with model number, see below. The PRINCE model RD-400R provides the same function as described above with the addition of a built in pressure relief for the priority port only. This relief is internally adjustable and requires a separate line to tank. The relief is factory set at 1500 PSI.

MODEL RD-400
Fixed Flow Priority Divider

MODEL RD-400-R
Fixed Flow Priority Divider With Priority Pressure Relief

VALVE SPECIFICATIONS:

Capacity: 30 GPM max inlet flow
Pressure: 3000 PSI max

Weight: RD-400 7 lbs.
RD-400-R 7.5 lbs.

Standard Models Available				PRIORITY GPM
Model Number		Port Size: Inlet and Excess Port	Port Size: Priority Port	
RD-400- ___ +	RD-400R- ___+	3/4 NPTF	3/8 NPTF	1.5
RD-405- ___ +	RD-405R- ___+	3/4 NPTF	1/2 NPTF	2
RD-412- ___ +	RD-412R- ___+	#12 SAE	#8 SAE	3
RD-450- ___ +	RD-450R- ___+	1/2 NPTF	3/8 NPTF	4
RD-455- ___ +	RD-455R- ___+	1/2 NPTF	1/2 NPTF	5
RD-477- ___ +	RD-477R- ___+	3/4 NPTF	3/4 NPTF	6
				7
				8
				9
				10
				12
				14

+ To complete the model number fill in the blank with the desired priority GPM from the list at right.
Example: RD-400-3 for 3 GPM priority flow; RD-405R-6 for 6 GPM priority flow.

MODEL RD-500 ADJUSTABLE FLOW PRIORITY DIVIDER

The PRINCE model RD-500 is an adjustable constant volume priority divider. This valve provides the same function as the PRINCE model RD-400 except the priority flow is adjustable from 2 GPM to 12 GPM. The priority flow is set using the adjusting screw and is then locked in place to maintain setting. This allows setting to be fine tuned in the field to the exact flow needed.

VALVE SPECIFICATIONS:

Capacity: 30 GPM max inlet flow Pressure: 3000 PSI max Weight: 7 lbs.

Standard Models Available	
Valve Model Number	Port Size
RD-537	3/8 NPTF
RD-550	1/2 NPTF
RD-575	3/4 NPTF

MODEL RD-100 TOP PORT FLOW CONTROL and MODEL RD-1900 SIDE PORT FLOW CONTROL

The PRINCE valve models RD-100 and RD-1900 are pressure compensated adjustable flow control valves. By rotating the handle the flow out the “CF” or controlled flow port can be varied from approximately 0 to the maximum controlled flow shown in the chart below. Any remaining flow is bypassed to the “EF” or excess flow port. This flow can be used to power another circuit or can be returned to tank. Once the controlled flow is set it will remain nearly constant with variations in pressure on either the controlled or excess flow ports. Please note, if during operation the controlled flow port is blocked the valve will compensate in such a way as to shut off flow to the excess port.

These valves can also be used as a restrictive flow control by plugging the excess flow port.

The PRINCE valve models RDRS-100 and RDRS-1900 have a built in adjustable pressure relief. For these models the excess flow port must be connected to tank.

It should be noted that whenever these or any valve is used to bypass or restrict flow heat will be generated. Steps maybe required to keep oil temperature from becoming too high.

MODEL RD-100

MODEL RD-1900

VALVE SPECIFICATIONS:

Capacity: 30 GPM max inlet flow
Pressure: 3000 PSI max
Weight: RD-100 8 lbs.
RD-1900 9 lbs.

FIELD REPAIR KITS:

Handle hardware 660301002
Seal Kit 660501001

Standard Models Available			
Model Number		Port Sizes	Controlled Flow Range
RD-137-8	RD-1937-8	3/8 NPTF	0-8 GPM
RD-150-8	RD-1950-8	1/2 NPTF	0-8 GPM
RD-150-16	RD-1950-16	1/2 NPTF	0-16 GPM
RD-175-16	RD-1975-16	3/4 NPTF	0-16 GPM
RD-175-30	RD-1975-30	3/4 NPTF	0-30 GPM
RD-108-8	RD-1908-8	#8 SAE	0-8 GPM
RD-112-30	RD-1912-30	#12 SAE	0-30 GPM
RDRS-150-16	RDRS-1950-16	1/2 NPTF	0-16 GPM
RDRS-175-30	RDRS-1975-30	3/4 NPTF	0-30 GPM

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MODEL RD-1600 PILOT OPERATED CHECK VALVE

The PRINCE valve model RD-1600 is a pilot operated check valve. This valve blocks oil from flowing from the cylinder port to the valve port until sufficient pressure is applied to the pilot port. Oil can free flow from the valve port to the cylinder port. The valve has a two stage poppet allowing smooth chatter free operation.

VALVE SPECIFICATIONS:
Capacity: 20 GPM max inlet flow
Pressure: 3000 PSI max
Weight: 2 lbs.
Pilot Ratio: 4:1
Decompression Ratio: 16:1

Standard Models Available		
Model Number	Valve & Cylinder Port	Pilot Port
RD-1637	3/8 NPTF	1/4 NPTF
RD-1650	1/2 NPTF	1/4 NPTF
RD-1608	#8 SAE (3/4-16)	#4 SAE (7/16-20)

MODEL SS SELECTOR

The PRINCE valve model SS is a manual 3-way 2 position selector valve. This valve will allow one pump source to supply two circuits. With the standard selector spool pulling the spool out diverts oil to port nearest handle, pushing the spool in diverts oil to the port away from the handle. The valve has an inlet on both the bottom and front of the valve body. Special options include lever handle and a float spool. The float spool connects the inlet to both outlets when the spool is pushed in and block both outlets when spool is pulled out.

VALVE SPECIFICATIONS:
Capacity: 20 GPM max inlet flow
Pressure: 2500 PSI max
Weight: 4 lbs.

Standard Models Available		
Model Number	Port Size	Description
SS-2A1D	1/2 NPTF	Selector With Knob Handle
SS-3A1D	#8 SAE	Selector With Knob Handle
SS-2A1A	1/2 NPTF	Selector Without Attachments
SS-2A1E	1/2 NPTF	Selector With Lever Handle
SS-2A1B	1/2 NPTF	Selector With Clevis

MODEL RD-1400 LOCK VALVE DOUBLE PILOT OPERATED

The PRINCE valve model RD-1400 is a double pilot-operated lock valve. This valve will lock a cylinder in place when a directional control valve is in the neutral position. In operation oil is directed to one of the valve ports and oil can free flow to the corresponding cylinder port. The pressure on this valve port will shift the pilot spool opening the opposite check valve. This will allow oil to return through the opposite check valve. This valve has a hardened steel seat and steel ball and therefore should not be used in applications requiring absolutely zero leakage. When using a pilot operated check to lower a heavy load the valve may chatter. An orifice in the line in some cases may be beneficial.

VALVE SPECIFICATIONS:
Capacity: 30 GPM max inlet flow
Pressure: 3000 PSI max
Weight: 7 lbs.
Pilot Ratio: 4:1

Standard Models Available	
Model Number	Port Size
RD-1450	1/2 NPTF
RD-1475	3/4 NPTF

MODEL RD-200 PROPORTIONAL FLOW DIVIDER VALVE

The PRINCE model RD-200 valve is a pressure compensated proportional flow divider. The standard models of this valve will take one inlet flow and split it into two nearly equal outlet flows. The valve is also available with special ratio spools which will split the flow into two flows proportional to the ratio specified. Because the valve is pressure compensated the valve will maintain the divider ratio with quite different loads on the outlet ports as long as the inlet flow is within the range given in the chart below. Flow through the RD-200 cannot be reversed.

The PRINCE model RD-300 provides the same function as the RD-200 with the added feature of free reverse checks. This allows the reverse flow of oil from the outlet ports to the inlet port. The reverse flow is not pressure compensated.

VALVE SPECIFICATIONS:
Capacity: 30 GPM max inlet flow
Pressure: 3000 PSI max
Weight: RD-200 7 lbs.
RD-300 7 lbs.

Standard Models Available					
Model Number			Divider Range	Port Size	Inlet Flow Ratio
RD-237-8	RD-337-8		50:50	3/8 NPTF	4-8 GPM
RD-250-16	RD-350-16	RD-350-AB-16	50:50	1/2 NPTF	8-19 GPM
RD-275-30	RD-375-30	RD-375-AB-30	50:50	3/4 NPTF	16-30 GPM
RD-208-8	RD-308-8		50:50	3/4 16 SAE	4-8 GPM
RD-212-30	RD-312-30		50:50	1-1/16-12 SAE	16-30 GPM

MODEL RD-900 SELECTOR VALVE

The PRINCE valve model RD-900 is a manual 3 way 2 position selector valve. This valve will allow one pump source to supply two separate circuits. Pushing the handle in diverts oil flow to port away from handle. Pulling the handle out diverts oil flow to port nearest handle.

VALVE SPECIFICATIONS:
Capacity: 30 GPM max inlet flow
Pressure: 3000 PSI max
Weight: 7 lbs.

Standard Models Available	
Model Number	Port Size
RD-1450	1/2 NPTF
RD-1475	3/4 NPTF

MODEL RD-1800 BALL/SPRING TYPE DIRECT ACTING RELIEF

The PRINCE valve model RD-1800 is a direct acting ball/spring type pressure relief. The valve is compact and simple in design. This type relief is fast opening and is well suited for pressure spike protection. The performance curves below indicate the low cracking pressure typical to ball/spring reliefs. Please refer to the model RV relief for a system pressure relief. The valve is available with a standard steel seat, model RD-1800S, or with a hardened seat, model RD-1800H. Both models are externally adjustable.

VALVE SPECIFICATIONS:
Capacity: 20 GPM max inlet flow
Pressure: 2500 PSI max
Weight: 2 lb.

Standard Models Available		
Model Number	Port Size	Max Flow
RD-1837S	3/8 NPTF	8 GPM
RD-1850H	1/2 NPTF	16 GPM
RD-1850S	1/2 NPTF	16 GPM

MODEL DS DOUBLE SELECTOR

The PRINCE valve model DS is a manual 6-way 2 position double selector valve. This valve will divert the flow going to two separate hydraulic circuits. For example two double acting cylinders or two reversible hydraulic motors can be operated by one four-way valve. When the double selector spool is pushed in, the C and D ports (top ports) are connected to the A and E ports (right ports). When the selector spool is pulled out, the C and D ports are connected to the B and F ports (left ports). An optional series/parallel spool is also available. This spool will run two reversible hydraulic motors in series when the spool is out and in parallel when the spool is pushed in.

VALVE SPECIFICATIONS:
Capacity: 40 GPM max inlet flow
Pressure: 2500 PSI
Weight: 9 lbs.

Standard Models Available		
Model Number	Port Size	Description
DS-4A1E	3/4 NPTF	Double Selector With Lever Handle
DS-5A1E	#12 SAE	Double Selector With Lever Handle
DS-4A1D	3/4 NPTF	Double Selector With Knob Handle
DS-4A1A	3/4 NPTF	Double Selector Without Attachments
DS-1A1E	1/2 NPTF	Double Selector With Lever Handle

MODEL RD-1000S (IP/ED) INTERNALLY PILOTED SEQUENCE VALVE WITH EXTERNAL DRAIN

The PRINCE valve model RD-1000S (IP/ED) is an internally piloted adjustable sequence valve. This valve will prevent the flow of oil from going to the sequence port until the pressure on the inlet port reaches the sequence pressure. The sequence pressure is adjustable within the range given in chart below. A built in check valve allows flow from sequence port to inlet. To operate properly **the drain port must be connected to tank**. This valve is a spool type sequence valve and will provide smooth operation but should not be used in applications that require low leakage.

VALVE SPECIFICATIONS:
Capacity: 30 GPM max inlet flow Pressure: 3000 PSI max Weight: 7 lbs.

Standard Models Available				
Model Number	Port Size & Sequence	Drain Port	Spring	Sequence Pressure
RD-1050S (IP/ED)	1/2 NPTF	3/8 NPTF	L	40-350 PSI
RD-1075S (IP/ED)	3/4 NPTF	3/8 NPTF	M	350-1700 PSI
			H	1400-2500 PSI

To complete the model number fill in the blank with the spring letter that corresponds to desired counter balance pressure range.
EX: RD-1050SM (IP/ED) for 350-1700 psi spring range.

SINGLE SPOOL MONO-BLOCK 20 GPM–MODEL RD-2500

FEATURES

- Economical monoblock construction of high tensile strength gray cast iron
- Load check
- Hard chrome plated spool
- Adjustable ball spring relief
- Open center to closed center conversion available on some models
- For use with system flows to 20 GPM
- For use with system pressures to 3000 PSI

LOG SPLITTER CONTROL VALVE–MODEL LS-3000

FEATURES

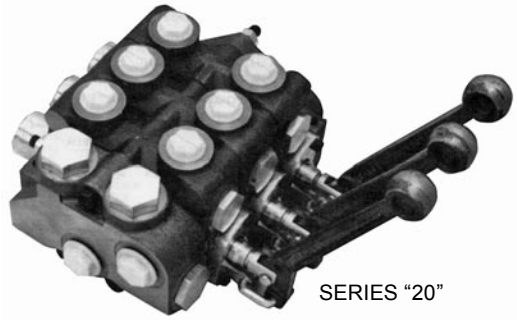
- Hydraulically balanced, hard chrome plated spool
- Handle can be installed in “up” or “down” position
- Detent release pressure adjustable from 1000 to 2000 PSI
- For use with system flows up to 25 GPM
- Relief valve adjustable up to 2750 PSI
- Tandem center spool (in neutral position, both work ports blocked, pump unloaded to tank)
- Ideal for log splitter applications. Available with 3/4” NPTF work ports for higher flow applications

VALVE PART NUMBER	SPOOL TYPE			SPOOL ACTION			IN/OUT PORT SIZE	WORK PORT SIZE	RELIEF SETTING	CONVERTIBLE FROM OPEN CENTER TO CLOSED CENTER
	4 WAY 3 POSITION	4 WAY 3 POSITION MOTOR	3 WAY 3 POSITION	SPRING CENTER TO NEUTRAL	3 POSITION DETENT	PRESSURE RELEASE DETENT SPRING CENTER TO NEUTRAL				
RD-2555-T4-ESA1	X			X			1/2 NPTF	1/2 NPTF	1500 PSI @ 12 GPM	NO
RD-2575-T4-ESA1	X			X			3/4 NPTF	1/2 NPTF	1500 PSI @ 12 GPM	YES
RD-2575-T4-EDA1	X				X		3/4 NPTF	1/2 NPTF	1500 PSI @ 12 GPM	YES
RD-2575-T3-ESA1			X	X			3/4 NPTF	1/2 NPTF	1500 PSI @ 12 GPM	YES
RD-2575-M4-ESA1		X		X			3/4 NPTF	1/2 NPTF	1500 PSI @ 12 GPM	YES
RD-2508-T4-ESA1	X			X			#10 SAE	#8 SAE	1500 PSI @ 12 GPM	NO
RD-2575-M4-EDA1		X			X		3/4 NPTF	1/2 NPTF	1500 PSI @ 12 GPM	YES
LS-3000-1	X					X	3/4 NPTF	1/2 NPTF	2250 PSI @ 3 GPM	NO
LS-3000-2	X					X	3/4 NPTF	3/4 NPTF	2250 PSI @ 3 GPM	NO
LS-3030-1	X			X			3/4 NPTF	1/2 NPTF	1500 PSI @ 12 GPM	NO
LS-3030-2	X			X			3/4 NPTF	3/4 NPTF	1500 PSI @ 12 GPM	NO
LS-3040-1	X				X		3/4 NPTF	1/2 NPTF	2250 PSI @ 13 GPM	NO

SECTIONAL BODY Series “20” – 20 GPM – 3000 PSI – Load Checks Standard

FEATURES

- 1 -10 Work Sections
- Extra Fine Spool Metering
- Power Beyond Capability
- Reversible Handle
- Load Checks on Each Work Port
- Hard Chrome Plated Spools
- A Float Section can be Installed in any Location in Valve Assembly
- Interchangeable Mounting With Other Popular “20” GPM Stack Valves
- Optional Work Section with Pilot Operated Checks



SERIES “20”

SPECIFICATIONS:

Parallel or Tandem Circuit Pressure Rating.....
Maximum Operating Pressure .....3500 PSI
Maximum Tank Pressure.....500 PSI
Foot Mounting Weight
Inlet Cover.....Approx. 6 lbs
Outlet Cover.....Approx. 3.5 lbs
Work Section .....Approx. 9 lbs
Maximum Operating Temp ..... 180°F
Nominal Flow Rating .....20 GPM

Please refer to pressure drop charts. Allowable pressure loss thru valve determines the maximum flow.

STANDARD INLET SECTIONS (All Sections Have Both Top And Side Inlet And Tank Ports)

PART NO.	RELIEF TYPE AND SETTING	PORT SIZE
2012A	No Relief	#12 SAE ORB
2012C	Shim Adjustable 1351-1750 PSI, Set at 1750 PSI @ 10 GPM	#12 SAE ORB
2012D	Shim Adjustable 1751-2200 PSI, Set at 2200 PSI @ 10 GPM	#12 SAE ORB
2012E	Shim Adjustable 2201-3000 PSI, Set at 2500 PSI @ 10 GPM	#12 SAE ORB
2012G	Adjustable 1351-1750 PSI, Set at 1750 PSI @ 10 GPM	#12 SAE ORB
2012H	Adjustable 1750-2200 PSI, Set at 2200 PSI @ 10 GPM	#12 SAE ORB
2012J	Adjustable 2201-3000 PSI, Set at 2500 PSI @ 10 GPM	#12 SAE ORB

STANDARD PARALLEL CIRCUIT WORK SECTIONS (All Work Sections Have #10 Sae Orb Ports, Load Checks, And Standard Lever Handles. Models With Port Reliefs Are Shim Adjustable)

PART NO.	SPOOL TYPE AND ACTION	PORT RELIEFS
20P1AA1AA	3-Way Single Acting W/Spring Center	Plugged
20P1BA1AA	4-Way Double Acting W/Spring Center (Work Ports Blocked In Neutral)	Plugged
20P1BA5AA-S12Q	4-Way Double Acting W/Spring Center (Solenoid Operated)	Plugged
20P1BA6AA-S12Q	4-Way Double Acting W/Spring Center With Handle (Solenoid Operated)	Plugged
20P1BB1AA	4-Way Double Acting W/3 Position Detent (Work Ports Blocked In Neutral)	Plugged
20P1CA1AA	4-Way Free Flow Motor W/Spring Center (Work Ports Open To Tank In Neutral)	Plugged
20P1CB1AA	4-Way Free Flow Motor W/3 Position Detent (Work Ports Open To Tank In Neutral)	Plugged
20P1DD1AA	4-Way 4 Position Float W/Spring Center And Float Detent	Plugged
20P1BA1DD	4-Way Double Acting W/Spring Center (Work Ports Blocked In Neutral)	2200 PSI
20P1CA1DD	4-Way Free Flow Motor W/Spring Center (Work Ports Open To Tank In Neutral)	2200 PSI
20P1DD1DD	4-Way 4 Position Float W/Spring Center and Float Detent	2200 PSI
20L1CA1	4-Way 3 Position W/Spring Center and P.O. Checks	None
20U2	Utility/Pilot Pressure Section (Required In Solenoid Assemblies)	

STANDARD TANDEM CIRCUIT WORK SECTIONS

PART NO.	SPOOL TYPE AND ACTION	PORT RELIEFS
20T1BA1AA	4-Way Double Acting W/ Spring Center (Work Ports Blocked In Neutral)	Plugged
20T1BA1DD	4-Way Double Acting W/ Spring Center (Work Ports Blocked In Neutral)	2200 PSI
20T1CA1AA	4-Way Free Flow Motor W/ Spring Center (Work Ports Open To Tank In Neutral)	Plugged

STANDARD OUTLET SECTIONS (All Sections Have Side Outlet)

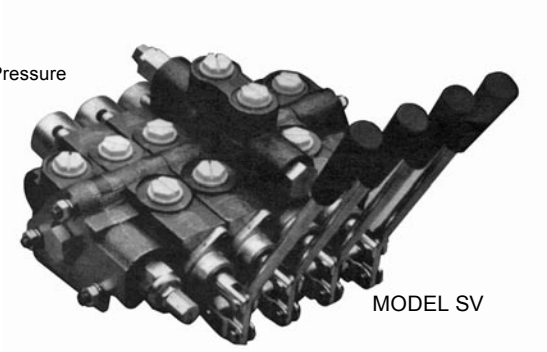
PART NO.	EXHAUST OPTION	PORT SIZE
20E21	Open Center Outlet W/Conversion Plug	#12 SAE ORB
20E22	Power Beyond Outlet W/ #10 SAE Power Beyond Port	#12 SAE ORB
20E23	Closed Center Outlet	#12 SAE ORB

TIE ROD KITS	PART NO.	WORK SECTIONS	PART NO.	WORK SECTIONS
TIE ROD TORQUE	660402001	1 SECTION	660402006	6 SECTION
30-32 ft-lbs	660402002	2 SECTION	660402007	7 SECTION
	660402003	3 SECTION	660402008	8 SECTION
	660402004	4 SECTION	660402009	9 SECTION
	660402005	5 SECTION	660402010	10 SECTION

SECTIONAL BODY MODEL SV – 12 GPM – 3000 PSI RATING – Load Checks Standard All Work Sections

STANDARD FEATURES

- 1-10 Sections Per Valve Bank
- Load Checks On Each Section
- Hard Chrome Plated Spools
- Compact Construction
- Enhanced Metering Section Available in both the High and Low Sections
- Differential Poppet Style Relief, Adjustable from 1500 to 3000 psi (Also available in Low Pressure Version Adjustable from 500 to 1500 psi)
- Power Beyond Capability
- Reversible Handle
- Mid-Inlet and Lock Valve Section available
- Flow Control Inlet



MODEL SV

Inlet Sections All Have Both Top And Side Inlet Ports

Part No.	Relief Type And Setting	Port Size
SVI21	No Relief	#10 SAE ORB (7/8-14 THD)
SVI24	Adjustable Low Pressure Relief Set at 1000 PSI	#10 SAE ORB (7/8-14 THD)
SVI15	Adjustable High Pressure Relief Set At 2000 PSI	#8 SAE ORB (3/4-16 THD)
SVI25	Adjustable High Pressure Relief Set at 2000 PSI	#10 SAE ORB (7/8-14 THD)

Work Sections All Have #8 SAE ORB (3/4-16 THD) Ports, Load Check And Standard Lever Handle

Part No.	Spool Type And Action
SVW1AA1	3-Way Single Acting w/ Spring Center
SVW1BA1	4-Way Double Acting w/ Spring Center (Work Ports Blocked in Neutral)
SVW1BB1	4-Way Double Acting w/ 3 Position Detent (Work Ports Blocked in Neutral)
SVW1CA1	4-Way Motor Spool w/ Spring Center (Work Ports Open to Tank in Neutral
SVW1CB1	4-Way Motor Spool w/ 3 Position Detent (Work Ports Open to Tank in Neutral)
SVW1DD1	4-Way 4 Position Float w/ Spring Center and Float Detent
SVL1CA1	4-Way Spool w/ Spring Center (with Pilot Operated Checks on Both Work Ports)
SVM1ES1	4-Way Meter Spool w/ Spring Center (Work Ports Blocked in Neutral)

Port Relief Work Sections All Have #8 SAE ORB (3/4-16 THD) Ports, Load Check And Standard Lever Handle. Models With Relief Factory Set At 2000 PSI At 3 GPM.

Part No.	Spool Type And Action	Port Reliefs
SVH1BA1AA	4-Way Double Acting w/ Spring Center	Port Relief Plugged
SVH1BA1GG	4-Way Double Acting w/ Spring Center	Adjustable 1500-3000 PSI
SVH1DD1AA	4-Way 4 Position Float w/ Spring Center and Float Detent	Port Relief Plugged
SVH1DD1BB	4-Way 4 Position Float w/ Spring Center and Float Detent	Shim Adjustable 1500-3000 PSI
SVR1ES1AA	4-Way Meter Spool w/ Spring Center	Port Relief Plugged
SVR1ES1GG	4-Way Meter Spool w/ Spring Center	Adjustable 1500-3000 PSI
SVS1GA1GG	4-Way Double Acting Series w/ Spring Center	Adjustable 1500-3000 PSI
SVS1GA1AA	4-Way Double Acting Series w/ Spring Center	Port Relief Plugged

Outlet Sections All Have Both Top And Side Outlet Ports

Part No.	Exhaust Options	Port Size
SVE11	Open Center Outlet w/ Conversion Plug	#8 SAE ORB (3/4-16 THD)
SVE21	Open Center Outlet w/ Conversion Plug	#10 SAE ORB (7/8-14 THD)
SVE22	Power Beyond Outlet w/ #8 SAE Beyond Port	#10 SAE ORB (7/8-14 THD)
SVE23	Closed Center Outlet	#10 SAE ORB (7/8-14 THD)
SVE26	Open Center Outlet Pressure Build-up Valve	#10 SAE ORB (7/8-14 THD)
SVE27	Power Beyond Pressure Build-up Valve	#10 SAE ORB (7/8-14 THD)

SPECIFICATIONS:

Parallel or Series Circuit Construction

Pressure Rating
- Maximum Operating Pressure ..... 3000 PSI
- Maximum Tank Pressure ..... 500 PSI
- Nominal Flow Rating ..... 12 GPM
- Refer to Pressure Drop Curves.

Maximum Operating Temp. ..... 180°F
Foot Mounting Weight Per Section
- Inlet Section..... Approx. 3.75 lbs.

Outlet Section ..... Approx. 3.75 lbs.
Work Section (Standard) ..... Approx. 5.50 lbs.
Work Section (High) ..... Approx. 8.00 lbs.
Filtration: Fluid cleanliness should meet the ISO 4406 17/14 level. As a minimum, 10 micron filtration is recommended.

Tie Rod Kits - Tie Rod Torque 150in-lbs ± 6in-lbs (12 1/2 ft-lbs ±1/2)

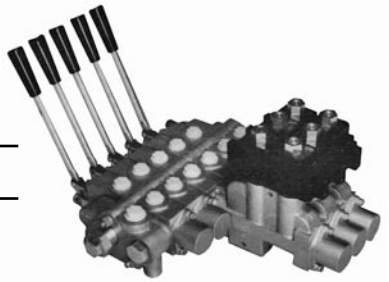
*Number of Work Sections

Part No.		Part No.	
660401001	1 Section*	660401006	6 Sections*
660401002	2 Sections*	660401007	7 Sections*
660401003	3 Sections*	660401008	8 Sections*
660401004	4 Sections*	660401008	9 Sections*
660401005	5 Sections*	660401010	10 Sections*

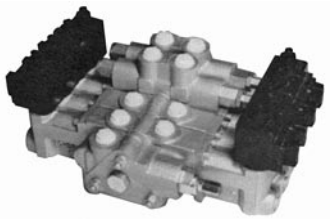
SECTIONAL BODY MODEL SV – SOLENOID OPERATED WORK SECTIONS

STANDARD FEATURES

- Open center or closed center applications
- Port relief options available
- Internal pilot supply and drain
- May be stacked with Manual SV Sections
- Power beyond capability
- Load checks on each section
- 12VDC, 24VDC and 120VAC



MODEL SVW



MODEL SVT

Solenoid Operated SVW Work Sections (All Have #8 Sae Ports And Load Check)

Part No.	Spool Type/Voltage
SVW1BA-T12Q	4 Way-3 Position/12 VDC
SVW1AA-T12Q	3 Postion/12 VDC
SVW1CA-T12Q	4 Way-3 Position Motor/12 VDC
SVW1BA-T11C	4 Way-3 Position/120 VAC

Solenoid Operated SVH Work Sections (All Have #8 SAE Ports And Load Check. Models With Relief, Factory Set At 2000 PSI At 3 GPM)

Part No.	Spool Type/Voltage	Port Reliefs
SVH1BAGG-T12Q	4 Way-3 Position/12 VDC	Adjustable 1500-3000 PSI
SVH1BAAA-T12Q	4 Way-3 Position/12 VDC	Port Relief Plugged
SVH1CAGG-T12Q	4 Way-3 Position Motor/12 VDC	Adjustable 1500 - 3000 PSI

Solenoid Operated SVW Work Sections (All Have #8 SAE Ports, Load Check and Standard Lever Handle)

Part No.	Spool Type/Voltage
SVW1AA1-S12Q	3 Way-3 Position/12 VDC
SVW1BA1-S12Q	4 Way-3 Position/12 VDC
SVW1CA1-S12Q	4 Way-3 Position Motor/12 VDC
SVW1BA1-S24Q	4 Way-3 Position/24 VDC

Solenoid Operated SVH Work Sections (All Have #8 SAE Ports, Load Check and Standard Lever Handle Models With Relief, Factory Set At 2000 PSI At 3 GPM)

Part No.	Spool Type/Voltage	Port Reliefs
SVH1BA1AA-S12Q	4 Way Double Acting/12 VDC	Port Relief Plugged
SVH1BA1AA-S24Q	4 Way Double Acting/24 VDC	Port Relief Plugged
SVH1BA1BB-S12Q	4 Way Double Acting/12 VDC	Shim Adj. 1500-3000 PSI
SVH1BA1BB-S24Q	4 Way Double Acting/24 VDC	Shim Adj. 1500-3000 PSI

For Inlets, Outlets and Tie-rod Kits, please refer to SV Section

SPECIFICATIONS

Parallel or Series Circuit Construction
Pressure Rating
- Maximum Operating Pressure ..... 3000 PSI
- Maximum Tank Pressure ..... 150 PSI
- Nominal Flow Rating ..... 12 GPM

Differential Pressure
Required to Actuator ..... Approx.. 150 PSI
Foot Mounting
Maximum Operating Temp. ..... 180°F
Weight Per Section
- Inlet Section ..... Approx.. 3.75 lbs.
- Outlet Section ..... Approx.. 3.75 lbs.

Solenoid Operated
- Type "-T" Work Section ..... Approx.. 11.0 lbs.
- Type "-S" Work Section ..... Approx.. 14.5 lbs.

Filtration: Fluid cleanliness should meet the ISO 4406 17/14 level. As a minimum, 10 micron filtration is recommended.

MONO-BLOCK DIRECTIONAL CONTROL VALVE–MODEL LVS – EXCELLENT FOR USE WITH FRONT END LOADERS

FEATURES

- Economical monoblock construction of high tensile strength gray cast iron
- Dual spool lock on joystick available
- Load check on each spool
- Hard chrome plated spools
- No face seals on spools
- Adjustable cartridge relief
- Power beyond available
- 4 Position Series Float Spool for loader boom
- 4 Position Regen Spool for loader bucket
- Molded rubber boot

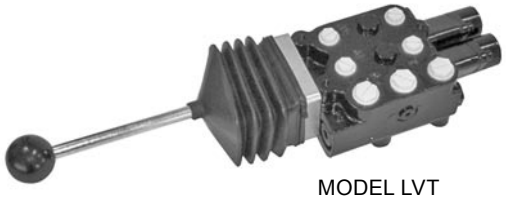
LVS SPECIFICATIONS
SERIES CIRCUIT (multifunction operation, simultaneous operation of both boom and bucket)
MAXIMUM OPERATING PRESSURE..... 3000 PSI
MAXIMUM OPERATING TEMPERATURE .....180°F
RECOMMENDED SYSTEM FILTRATION..... ISO 4406 17/14
NOMINAL FLOW RATING ..... 11 GPM
WEIGHT.....18.5lbs

MODEL LVS

Standard Valves Available								
Valve Model Number	Spool Type		Spool Action		Ports		Dual Spool Lock	Convertible To Closed Center
	4 Way 4 Position Float A-B Spool	4 Way 3 Position Regen C-D Spool	A-B Spool	C-D Spool	In, Out, Power Beyond	Work Ports		
LVS1AGR5A3		X	Float Detent	Selective Regen	#8 SAE	Semi Rear #6 SAE		No
LVS1BGR5A3	X	X	Float Detent	Selective Regen	#8 SAE	Top Ports #6 SAE		No
LVS1BGR5A1	X	X	Float Detent	Selective Regen	#8 SAE	Top Ports #6 SAE	X	No

MONO-BLOCK DIRECTIONAL CONTROL VALVE–MODEL LVT – EXCELLENT FOR USE WITH FRONT END LOADERS

LVT SPECIFICATIONS:
PARALLEL CIRCUIT
MAXIMUM OPERATING PRESSURE..... 3000 PSI
MAXIMUM OPERATING TEMPERATURE .....180°F
RECOMMENDED SYSTEM FILTRATION..... ISO 4406 17/14
FLOW RATING ..... 10 GPM
WEIGHT.....14.6 LBS



MODEL LVT

	Spool Type			Spool Action		Top Ported		
Valve Model Number	4 Way 4 Position Float Spool	4 Way 3 Position Spool	4 Way 4 Position Regen Spool	A1-B1 Spool	A2-B2 Spool	In, Out, Power Beyond	Work Ports	Convertible To Closed Center
LVT1BB5AB1		X		Spring Center	Spring Center	#8 SAE	#6 SAE	Yes
LVT1GB5AB1	X	X		Float Detent	Spring Center	#8 SAE	#6 SAE	Yes
LVT1GB5AB3	X	X		Float Detent	Spring Center	#8 SAE	#6 SAE	Yes
LVT1GR5AB3	X		X	Float Detent	Selective Regen	#8 SAE	#6 SAE	Yes
LVT1RG5AB5	X		X	Selective Regen	Float Detent	#8 SAE	#6 SAE	Yes
LVT1BG5AB5	X	X		Spring Center	Float Detent	#8 SAE	#6 SAE	Yes

MONO-BLOCK DIRECTIONAL CONTROL VALVE–MODEL LVR – EXCELLENT FOR USE WITH FRONT END LOADERS

MODEL LVR

LVR SPECIFICATIONS:
PARALLEL CIRCUIT
MAXIMUM OPERATING PRESSURE..... 3000 PSI
MAXIMUM OPERATING TEMPERATURE .....180°F
RECOMMENDED SYSTEM FILTRATION..... ISO 4406 17/14
FLOW RATING ..... 14 GPM
WEIGHT..... 22.6 LBS
5/16-18UNC MOUNTING HOLES ON BOTH TOP AND BOTTOM OF VALVE.

	Spool Type				Spool Action		Rear Ported		
Valve Model Number	4 Way 4 Position Float A-B Spool	4 Way 3 Position A-B Spool	4 Way 4 Position Float C-D Spool	4 Way 3 Position C-D Spool	A-B Spool	C-D Spool	In, Out, Power Beyond	Work Ports	Convertible To Closed Center
LVR1GB5AB6	X			X	Float Detent	Spring Center	#10 SAE	#8 SAE	Yes
LVR1BG5AB4		X	X		Spring Center	Float Detent	#10 SAE	#8 SAE	Yes

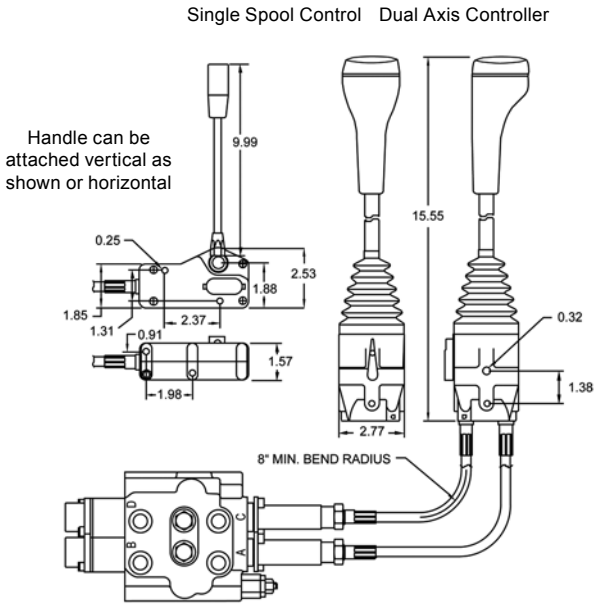
REMOTE CABLE CONTROLS FOR PRINCE VALVES

Heavy duty remote cable controls are available for most Prince directional control valves. The compact controller bodies are of die-cast metal construction and are available in either dual axis or single axis configurations. Dual axis joysticks are constructed with steel swivels and anti-wear bushings. The high strength flexible control cables are jacketed and have quick attach connections.

REMOTE CONTROLLERS	Prince Part No.
Dual Axis Joystick with lock	660170038
Single Axis	660170039
CONTROL CABLES	**Prince Part No.**
59 inches long (1.5 M)	660171150
79 inches long (2.0 M)	660171200
98 inches long (2.5 M)	660171250
VALVE CONNECTION KITS	**Prince Part No.**
RD5000 series kit*	660170037
LVS kit (Series loader valve)*	660170029
LVR or LVT kit (Rear or Top ported loader valve)**	660170030
SV stack valve or RD4100 kit***	660170031
Series 20 stack valve kit****	660170035

Note: One control cable and one connection kit is required for each spool controlled. Order the remote controller, the control cables and the connection kits as necessary to complete the remote cable control assembly.

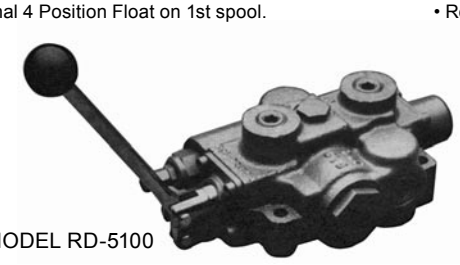
* Field convertible or order option 3, less handle assembly.
** Order loader valve handle option 8, tang end only.
*** Field convertible from standard handle or order option 6, clevis spool end only.
**** Field convertible or order option 3, less complete handle.



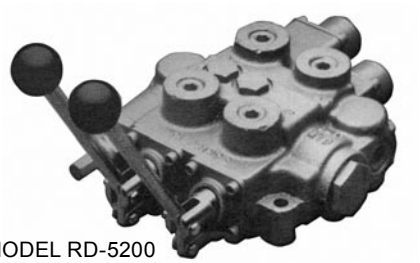
MODEL RD-5000 DIRECTIONAL CONTROL VALVES – MONO-BLOCK – 3000 PSI – 25 GPM – CARTRIDGE RELIEF

STANDARD FEATURES

- Economical monoblock construction of high tensile strength gray cast iron.
- Load check on each spool.
- Hard chrome plated spool.
- Optional 4 Position Float on 1st spool.
- Differential poppet style relief, adjustable from 1500 to 3000 psi (also available in low pressure version adjustable from 500 to 1500 psi)
- Power beyond and closed center capability.
- Reversible handle.



MODEL RD-5100



MODEL RD-5200

MODEL RD-5300

SPECIFICATIONS:

Parallel Circuit (RD-5200 & RD-5300) .....
Maximum Operating Pressure..... 3000 PSI
Maximum Operating Temperature.....180°F
Maximum Tank Port Pressure ..... 500 PSI
Recommended System Filtration ..... ISO 4406 17/14

Weight ..... 14 LBS RD5100
23 LBS RD5200
34 LBS RD5300
Flow Rating .....30 GPM RD5100
25 GPM RD5200
25 GPM RD5300

STANDARD VALVES AVAILABLE: All standard valves have end inlet and outlet locations, power beyond conversion plug, complete handle assemblies, and adjustable differential poppet relief.

Valve Model Number	Spool Type					In/Out Port Size	Work Port Size		Relief Setting
	1st Spool Configuration			2nd Spool Configuration	3rd Spool Configuration				
	Float Spool[1]	3 Position 4 Way[2]	3 Position 4 Way Detented[3]	3 Position 4 Way[2]	3 Position 4 Way[2]	3/4 NPTF	1/2 NPTF	3/4 NPTF	
RD512GG5A4B1	X					X	X		2000 PSI @ 10 GPM
RD512CA5A4B1		X				X	X		2000 PSI @ 10 GPM
RD513GG5A4B1	X					X		X	2000 PSI @ 10 GPM
RD513CA5A4B1		X				X		X	2000 PSI @ 10 GPM
RD513CB5A4B1			X			X		X	2000 PSI @ 10 GPM
RD522GCGA5A4B1	X			X		X	X		2000 PSI @ 10 GPM
RD522CCAA5A4B1		X		X		X	X		2000 PSI @ 10 GPM
RD532GCCGAA5A4B1	X			X	X	X	X		2000 PSI @ 10 GPM
RD532CCCAAA5A4B1		X		X	X	X	X		2000 PSI @ 10 GPM

1. Four position, four way, tandem center, detented “in” the float position. Spring center to neutral from work positions. Work ports blocked in neutral.
2. Tandem center. Spring center to neutral from work positions. Work ports blocked in neutral.
3. Tandem center, 3 position detent. Work ports blocked in neutral.

DIFFERENTIAL POPPET STYLE RELIEF VALVES – RV AND DRV SERIES

The PRINCE valve model RV is a differential poppet type inline relief. The valve is made up of a relief cartridge and a cast iron valve body. The differential poppet type relief provides smooth quiet performance with a minimum variation between cracking and full flow pressures. This type relief is also less sensitive to system contamination. The model RV is well suited as a system relief up to 30 GPM and 3000 psi. It is available in two pressure ranges and both an externally adjustable and shim adjustable version.

VALVE SPECIFICATIONS:
Capacity: 30 gpm max inlet flow Weight: 3 lbs.
Pressure: 3000 psi max

The PRINCE valve model DRV is a differential poppet type double relief. This valve uses the same relief cartridge as the model RV. The double relief is used in systems that require cross over relief protection such a reversible hydraulic motor, or systems that require a cushion valve such as double acting cylinders.

VALVE SPECIFICATIONS:
Capacity: 30 gpm max inlet flow Weight: 5.5 lbs.
Pressure: 3000 psi max

The PRINCE valve model RV-0 is the differential poppet relief cartridge used in many valve models. It is available preset to install into RV valves in the field or into a custom application. This relief cartridge can also be used in the RD5100, RD5200, RD5300 and SV stack valve inlet section.

VALVE SPECIFICATIONS:
Capacity: 30 gpm max inlet flow
Pressure: 3000 psi max

STANDARD MODELS AVAILABLE				
MODEL NUMBER	MODEL NUMBER	VALVE TYPE	RELIEF SETTING	PORT SIZE
RV-1H	DRV-1HH	ADJUSTABLE 1500-3000 PSI	2000 PSI @ 10 GPM	#12 SAE
RV-2H	DRV-2HH	ADJUSTABLE 1500-3000 PSI	2000 PSI @ 10 GPM	3/4” NPTF
RV-4H	DRV-4HH	ADJUSTABLE 1500-3000 PSI	2000 PSI @ 10 GPM	1/2” NPTF
RV-2L	DRV-2LL	ADJUSTABLE 500-1500 PSI	1000 PSI @ 10 GPM	3/4” NPTF

Prince Custom Design

Prince Manufacturing Corporation has been providing custom design solutions for the Fluid Power Industry for over 50 years. Our engineers help solve design issues for a broad range of clients from industries that include:

- Construction
- Material Handling
- Agriculture
- Mining
- Solid Waste
- Off Road
- Forestry
- Trucking
- Demolition
- Aeronautics
- Marine
- Utilities Equipment

Today’s market places greater demands on equipment that, just a few years ago, were state of the art. Consumers push their equipment harder and expect more from it. By evaluating conditions and loads, Prince is providing our customer’s solutions that improve equipment performance and safety.

Prince currently manufactures custom valves and cylinders that are designed for specific needs. We produce valves with custom ports, circuits, configurations and special spool action attachments. Some examples of our custom cylinders are:

- Non-Rotating
- High Flow Capability
- Custom Mounts
- High Cycle Life
- Load Holding Valves
- Special Rod Size
- Double Ended Cylinders
- Special Seal Materials
- Series/Rephase
- Special Strokes & Retraction
- Various Pressure
- Special End Fittings
- Bores From 1” to 16”
- Trunnions
- Special Bushings
- Manifold Tubes

The quality of Prince products combined with engineering expertise has established Prince as a leader in providing solutions. If you have questions or need more information, call your Prince Distributor or Prince Sales Representative. Prince is ready to work on your solution.

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RoyalPlate Plus®

RoyalPlate Plus® is the unique result of combining two very functional coatings in an extremely controlled environment. The combination provides the excellent wear, hardness, and lubricity characteristics of hard chrome, with the outstanding corrosion protection & ductility of Nickel plating.

Because of its hardness, anti-galling characteristics, and low coefficient of friction, hard chrome has long been the preferred coating for the piston rods of hydraulic cylinders. Best known for its excellent wear characteristics, hard chrome is not always the best choice for corrosion protection. Its susceptibility to corrosion is due to the natural characteristics of chrome. Chrome by nature is micro-cracked. Under microscopic examination, you find micro-cracks that make the substrate susceptible to corrosion. In contrast. Nickel is a barrier coating, which exhibits superior corrosion protection, and is used in applications that are highly corrosive. Through unique process control and application technologies, RoyalPlate Plus® offers substantial performance enhancements.

The combination of Nickel as an undercoating & Hard Chrome as the topcoat has become the coating of choice for parts that require superior corrosion protection and outstanding wear characteristics. Excellent corrosion results have been recorded when these two coatings are used in combination.

The true test of RoyalPlate Plus® will be how it works in your most demanding application. We challenge you to put it to the test. We are confident you will be impressed by its outstanding performance.