

# PD12 Planetary Hoists

12,000 LB First Layer Line Pull

**BRADEN**  
PACCAR WINCH DIVISION



## Standard Features:

- Multi-disc spring applied, hydraulically released brake to hold the load even if a hydraulic line brakes
- Anti-friction bearings used throughout to maximize efficiency
- Brake valve for smooth performance
- Full load wire rope anchor
- High efficiency motor
- Extra brake capacity retains 3:1 safety factor even with system backpressure of 150 psi.

## Optional:

- Gear ratios, motor displacements and drum sizes to tailor winch to specific applications
- Personnel Rating in compliance with API 2C



## Ratio and Motor Selection

The charts on the following pages will help establish the gear ratio and motor displacement for the best line pull and line speed combination. Sometimes winch performance is limited by the amount of power the hydraulic system can provide but proper winch selection can maximize performance to get the job done

The mid-range 41:1 reduction is the best all-around gear reduction for most applications giving good line speed and line control. The high reduction 59:1 option gives the best load control and is normally suited for lower horsepower hydraulic systems. The 29:1 reduction works well with high horsepower hydraulic systems. The low reduction 21:1 option is well suited for high line speed applications where precise load control is not as important.

## Explanation of Model Number

<b>PD</b>	<b>12</b>	<b>C</b>	<b>41</b>	<b>039</b>	<b>02</b>	<b>U</b>	<b>L</b>	<b>1</b>
POWER DRUM	MAX RATING	DESIGN MODEL	GEAR RATIO	MOTOR SIZE	DRUM SIZE	ROTATION	BASE	OPTION

- PD** DESIGNATES POWER DRUM
- 12** DESIGNATES 12,000 LB. FIRST LAYER LINE PULL
- C** DESIGNATES THE MODEL SERIES RELATING TO DESIGN CHANGES
- 41** DESIGNATES TOTAL GEAR REDUCTION (21= 21.00:1, 29= 29.25:1, 41= 41.62:1, 59= 59.06:1)
- 039** DESIGNATES HYDRAULIC MOTOR DISPLACEMENT IN CU IN/REV (039= 3.9 CU IN/REV)
- 02** DESIGNATES DRUM SIZE
- U** DESIGNATES UNDERWOUND CABLE DRUM - OPTIONAL
- L** DESIGNATES LEFT HAND BASE - OPTIONAL
- 1** PERMITS TESTING AND INSPECTION PER API 2C FOR OFFSHORE CRANES (OPTIONAL)



**PACCAR** WINCH DIVISION  
P.O. BOX 547 BROKEN ARROW, OK U.S.A. 74013  
PHONE (918) 251-8511 FAX (918) 259-1575  
[www.paccarwinch.com](http://www.paccarwinch.com)

Copyright 2006 PACCAR Inc  
All Rights Reserved

LIT-2311 R1  
OCT 2006

# PD12 Planetary Hoists

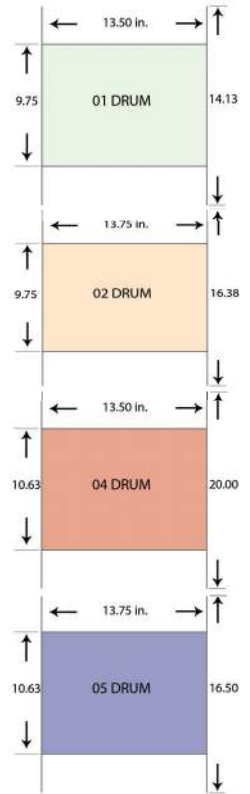
12,000 LB First Layer Line Pull

## PD12C DRUM CAPACITY [inches]

-01 (9.75"B x 14.13"F x 13.75"W)    -04 (10.63"B x 20.00"F x 13.50"W)  
 -02 (9.75"B x 16.38"F x 13.75"W)    -05 (10.63"B x 20.00"F x 13.75"W)

in.	DRUM	D/d	1	2	3	4	5	6	7	8	9	10	11	12
3/8"	-01	27:1	75	157	245	340	441	548						
	-02		97	201	312	430	555	688	828	975*				
	-04	29.3:1	103	213	330	454	585	723	869	1022	1182	1349	1523	1704*
	-05		105	217	336	463	597	738	886*					
7/16"	-01	23.2:1	83	173	271	376*	488*							
	-02		83	173	271	376	488	607	733*					
	-04	25.2:1	89	185	288	398	515	639	770	908	1053	1205*		
	-05		90	188	293	405	524	650*						
1/2"	-01	20.5:1	73	152	241	336*								
	-02		73	153	241	336	438	547*						
	-04	22.2:1	78	163	255	354	460	573	694	822	957*			
	-05		78	163	255	354	460*							
9/16"	-01	18.3:1	65	138	218	305*								
	-02		65	138	218	305	399							
	-04	19.8:1	70	147	231	322	420	525	637	756				
	-05		70	147	231	322	420							

\* Layer does not meet ANSI B30.7

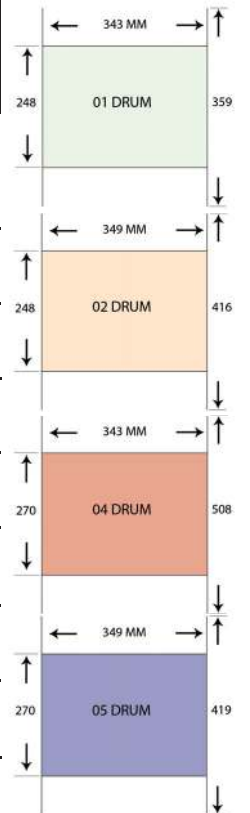


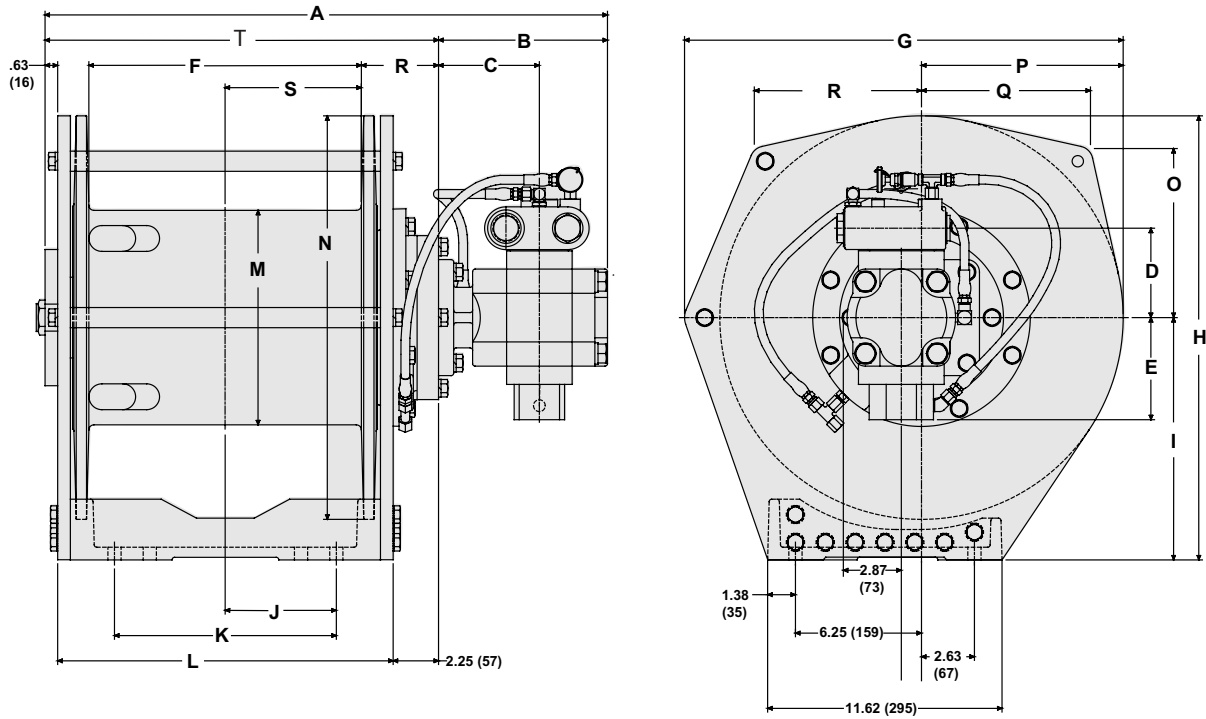
## PD12C DRUM CAPACITY [meters]

-01 (248mm B x 359mm F x 343mm W)    -04 (270mm B x 508mm F x 343mm W)  
 -02 (248mm B x 416mm F x 349mm W)    -05 (270mm B x 508mm F x 349mm W)

mm	DRUM	D/d	1	2	3	4	5	6	7	8	9	10	11	12
10	-01	25.7:1	22	46	72	99	129	161						
	-02		28	58	91	126	162	201	243	286*				
	-04	27.9:1	30	62	96	133	171	212	255	300	347	397	448*	
	-05		30	63	98	135	175	216	260*					
11	-01	23.5:1	26	53	84	116	150*							
	-02		26	53	84	116	150	187	226*					
	-04	25.5:1	27	57	89	123	158	197	237	279	324	370*		
	-05		28	58	90	125	161	200*						
13	-01	20:1	22	46	72	101*								
	-02		22	46	72	101	131	164*						
	-04	21.7:1	23	48	76	106	138	172	208	247	287*			
	-05		24	50	78	108	141*							
14	-01	18.6:1	67	141	222	310*								
	-02		67	141	222	310	399							
	-04	20.2:1	22	45	71	99	130	162	197	233*				
	-05		22	46	73	101	132*							

\* Layer does not meet ANSI B30.7





### Dimensional Measurements

English (metric)

\*\*other motor options available, please consult you authorized Braden Distributor or Sales Representative

	A	B	C	D	E	MOTOR	F	G	H	I	J
<b>01</b> DRUM	26.44 (671.58)	7.23 (183.64)	4.07 (103.38)	-	-	029					
	27.38 (695.45)	7.88 (200.15)	3.94 (100.08)	-	-	051	13.75 (349.25)	14.13 (358.90)	15.81 (401.57)	8.75 (222.25)	5.52 (140.21)
	27.88 (708.88)	8.38 (212.85)	3.35 (85.09)	-	-	064					
<b>02</b> DRUM	27.48 (705.61)	7.44 (188.98)	4.32 (109.73)	-	-	039					
	27.91 (708.91)	7.88 (200.15)	4.75 (120.65)	3.79 (96.27)	4.41 (112.01)	051	13.75 (349.25)	16.50 (419.10)	18.19 (462.03)	9.94 (252.48)	5.50 (139.70)
	28.85 (732.79)	8.38 (212.85)	5.00 (127)	4.44 (112.78)	5.06 (128.52)	064					
<b>04</b> DRUM	26.95 (27.88)	7.44 (188.98)	4.32 (109.73)	3.79 (96.27)	4.04 (102.62)	039	13.50 (342.90)	21.75 (552.45)	22.00 (558.80)	12.00 (304.80)	5.50 (139.70)
	27.88 (708.15)	8.38 (212.85)	5.00 (127)	4.44 (112.78)	5.06 (128.52)	064					
<b>05</b> DRUM	28.35 (720.09)	7.88 (200.15)	4.75 (120.65)	3.78 (96.01)	4.40 (111.76)	039	13.75 (349.25)	20.66 (524.76)	18.00 (457.20)	10.00 (254)	5.50 (139.70)
	28.85 (732.79)	8.38 (212.85)	5.00 (127)	4.44 (112.78)	5.06 (128.52)	064					
	K	L	M	N	O	P	Q	R	S	T	
<b>01</b> DRUM	11.00 (279.40)	16.63 (422.40)	9.75 (247.65)	14.13 (358.90)	7.06 (179.32)	7.06 (179.32)	-		6.88 (174.75)	17.46 (443.48)	
<b>02</b> DRUM	11.00 (279.40)	16.63 (422.40)	9.75 (247.65)	16.38 (416.05)	8.25 (209.55)	8.25 (209.55)	-		6.88 (174.75)	18.89 (479.81)	
<b>04</b> DRUM	8.88 (225.55)	16.63 (422.40)	10.63 (270)	20.00 (508)	10.00 (254)	10.00 (254)	8.38 (212.85)	8.29 (210.57)	6.75 (171.45)	19.50 (495.30)	
<b>05</b> DRUM	11.00 (279.40)	16.63 (422.40)	10.63 (270)	16.50 (419.10)	10.00 (254)	8.25 (209.55)	-	9.75 (247.65)	6.88 (174.45)	17.32 (439.93)	

# PD12 Planetary Hoists

12,000 LB First Layer Line Pull

## PD12C Performance 01 & 02 Drum STANDARD

ROPE SIZE (IN.)	LAYER	59:1 RATIO				41:1 RATIO					
		051 MOTOR 5.10 Cu. In. Disp. 1,650 PSI @ 75 gpm		039 MOTOR 3.92 Cu. In. Disp. 2,250 PSI @ 65 gpm		029 MOTOR 2.94 Cu. In. Disp. 3,000 psi @ 50 gpm		051 MOTOR 5.10 Cu. In. Disp. 2,400 PSI @ 50 gpm		039 MOTOR 3.9 Cu. In. Disp. 3,000 PSI @ 50 gpm	
		LINE PULL (LBS)	LINE SPEED (FPM)	LINE PULL (LBS)	LINE SPEED (FPM)	LINE PULL (LBS)	LINE SPEED (FPM)	LINE PULL (LBS)	LINE SPEED (FPM)	LINE PULL (LBS)	LINE SPEED (FPM)
1/2	1	11600	144	11280	160	10980	160	11890	131	10600	170
	2	10570	158	10280	176	10010	176	10830	144	9660	187
	3	9700	172	9440	191	9190	191	9950	157	8870	204
	4	8970	186	8730	207	8500	207	9200	169	8200	221
	5	8340	200								

ROPE SIZE (IN.)	LAYER	29:1 RATIO				21:1 RATIO			
		064 MOTOR 6.38 Cu. In. Disp. 2,500 PSI @ 80 gpm		051 MOTOR 5.10 Cu. In. Disp. 3,000 PSI @ 65 gpm		064 MOTOR 6.38 Cu. In. Disp. 3,000 PSI @ 80 gpm		051 MOTOR 5.10 Cu. In. Disp. 3,000 PSI @ 75 gpm	
		LINE PULL (LBS)	LINE SPEED (FPM)	LINE PULL (LBS)	LINE SPEED (FPM)	LINE PULL (LBS)	LINE SPEED (FPM)	LINE PULL (LBS)	LINE SPEED (FPM)
1/2	1	11180	249	10440	249	9630	346	7500	405
	2	10190	273	9520	273	8780	380	6830	444
	3	9360	297	8740	297	8060	414	6270	484
	4	8650	322	8080	322	7450	448	5800	523
	5	8040	346	7510	346	6930	482	5390	563

### 2-Speed Motor (049/024)

(line speeds and line pulls shown as low speed/ high speed)

80.3 Cu. cm. Disp - low speed 40.2 Cu. cm. Disp - high speed

ROPE SIZE (IN.)	LAYER	59:1 RATIO		41:1 RATIO		29:1 RATIO	
		1,900 PSI @ 40 gpm		2,700 PSI @ 40 gpm		2,945 PSI @ 40 gpm	
		LINE PULL (LBS)	LINE SPEED (FPM)	LINE PULL (LBS)	LINE SPEED (FPM)	LINE PULL (LBS)	LINE SPEED (FPM)
1/2	1	11900/5550	66/150	11910/5560	94/212	9130/4260	134/303
	2	10820/5050	73/165	10840/5060	103/234	8310/3880	147/333
	3	9920/4630	79/179	9940/4640	113/255	7620/3550	160/363
	4	9160/4270	86/194	9170/4280	122/276	7030/3280	174/393
	5	8510/3970	92/209	8520/3980	131/297	6560/3050	187/423

**PD12C Performance  
04 & 05 Drum  
STANDARD**

ROPE SIZE (IN.)	LAYER	59:1 RATIO						41:1 RATIO			
		051 MOTOR 5.10 Cu. In. Disp. 1,650 PSI @ 75 gpm		039 MOTOR 3.92 Cu. In. Disp. 2,250 PSI @ 65 gpm		029 MOTOR 2.94 Cu. In. Disp. 3,000 psi @ 50 gpm		051 MOTOR 5.10 Cu. In. Disp. 2,400 PSI @ 50 gpm		039 MOTOR 3.9 Cu. In. Disp. 3,000 PSI @ 50 gpm	
		LINE PULL (LBS)	LINE SPEED (FPM)	LINE PULL (LBS)	LINE SPEED (FPM)	LINE PULL (LBS)	LINE SPEED (FPM)	LINE PULL (LBS)	LINE SPEED (FPM)	LINE PULL (LBS)	LINE SPEED (FPM)
1/2	1	10690	156	11320	174	10120	174	10960	142	9770	185
	2	9810	170	10390	189	9290	189	10050	155	8970	202
	3	9060	184	9600	205	8580	205	9290	168	8280	218
	4	8420	198	8920	221	7970	221	8630	181	7700	235
	5	7860	212	8330	236	7450	236	8060	193	7190	252

ROPE SIZE (IN.)	LAYER	29:1 RATIO				21:1 RATIO			
		064 MOTOR 6.38 Cu. In. Disp. 2,500 PSI @ 80 gpm		051 MOTOR 5.10 Cu. In. Disp. 3,000 PSI @ 65 gpm		064 MOTOR 6.38 Cu. In. Disp. 3,000 PSI @ 80 gpm		051 MOTOR 5.10 Cu. In. Disp. 3,000 PSI @ 75 gpm	
		LINE PULL (LBS)	LINE SPEED (FPM)	LINE PULL (LBS)	LINE SPEED (FPM)	LINE PULL (LBS)	LINE SPEED (FPM)	LINE PULL (LBS)	LINE SPEED (FPM)
1/2	1	10310	270	9630	270	8880	376	6910	439
	2	9460	294	8830	294	8150	410	6340	479
	3	8740	318	8160	319	7530	444	5860	518
	4	8120	343	7580	343	6990	478	5440	558
	5	7580	367	7080	367	6530	511	5080	597

**2-Speed Motor (049/024)**

(line speeds and line pulls shown as low speed/ high speed)

80.3 Cu. cm. Disp - low speed    40.2 Cu. cm. Disp - high speed

ROPE SIZE (IN.)	LAYER	41:1 RATIO		21:1 RATIO	
		2,650 PSI @ 40 gpm		2,945 PSI @ 40 gpm	
		LINE PULL (LBS)	LINE SPEED (FPM)	LINE PULL (LBS)	LINE SPEED (FPM)
1/2	1	10980/5130	102/231	6040/2820	202/457
	2	10060/4690	111/252	5540/2580	221/499
	3	9280/4330	121/273	5110/2380	240/542
	4	8610/4020	130/294	4740/2210	258/584
	5	8030/3750	139/315	4420/2060	277/626

# PD12 Planetary Hoists

12,000 LB First Layer Line Pull

## PD12C Performance 01 & 02 Drum METRIC

ROPE SIZE (mm.)	LAYER	59:1 RATIO						41:1 RATIO			
		051 MOTOR 83.6 Cu. cm. Disp. 121 bar @ 284 l/m		039 MOTOR 64.2 Cu. cm. Disp. 169 bar @ 246 l/m		029 MOTOR 48.2 Cu. cm. Disp. 207 bar @ 189 l/m		051 MOTOR 83.6 Cu. cm. Disp. 172 bar @ 284 l/m		039 MOTOR 64.2 Cu. cm. Disp. 207 bar @ 246 l/m	
		LINE PULL (KG)	LINE SPEED (MPM)	LINE PULL (KG)	LINE SPEED (MPM)	LINE PULL (KG)	LINE SPEED (MPM)	LINE PULL (KG)	LINE SPEED (MPM)	LINE PULL (KG)	LINE SPEED (MPM)
13	1	5440	43	5440	49	4946	49	5440	62	4818	69
	2	4950	48	4950	53	4477	55	4950	68	4391	76
	3	4540	52	4540	58	4077	60	4540	74	4032	83
	4	4190	57	4190	63	3741	65	4190	81	3727	90
	5	3890	61	3890	68	3459	70	3890	87	3468	96

ROPE SIZE (mm.)	LAYER	29:1 RATIO				21:1 RATIO			
		064 MOTOR 105 Cu. cm. Disp. 207 bar @ 303 l/m		051 MOTOR 83.6 Cu. cm. Disp. 207 bar @ 284 l/m		064 MOTOR 105 Cu. cm. Disp. 207 bar @ 303 l/m		051 MOTOR 83.6 Cu. cm. Disp. 207 bar @ 284 l/m	
		LINE PULL (KG)	LINE SPEED (MPM)	LINE PULL (KG)	LINE SPEED (MPM)	LINE PULL (KG)	LINE SPEED (MPM)	LINE PULL (KG)	LINE SPEED (MPM)
13	1	4882	76	4720	88	4390	105	3409	123
	2	4445	83	4290	97	3990	116	3105	135
	3	4082	91	3940	106	3660	127	2850	148
	4	3777	98	3630	115	3380	137	2636	159
	5	3509	105	3380	124	3140	148	2450	172

### 2-Speed Motor (049/024)

(line speeds and line pulls shown as low speed/ high speed)

80.3 Cu. cm. Disp - low speed 40.2 Cu. cm. Disp - high speed

ROPE SIZE (mm.)	LAYER	59:1 RATIO		41:1 RATIO		29:1 RATIO	
		131 bar @ 151 l/m		186 bar @ 151 l/m		203 bar @ 151 l/m	
		LINE PULL (KG)	LINE SPEED (MPM)	LINE PULL (KG)	LINE SPEED (MPM)	LINE PULL (KG)	LINE SPEED (MPM)
13	1	5409/2523	20/46	5414/2527	29/65	4150/1936	41/92
	2	4918/2295	22/50	4927/2300	31/71	3777/1764	45/101
	3	4509/2105	24/55	4518/2109	34/78	3464/1614	49/111
	4	4164/1941	26/59	4168/1945	37/84	3195/1491	53/120
	5	3868/1805	28/64	3873/1809	40/91	2968/1386	57/129

**PD12C Performance  
04 & 05 Drum  
METRIC**

ROPE SIZE (mm.)	LAYER	59:1 RATIO						41:1 RATIO			
		051 MOTOR 83.6 Cu. cm. Disp. 121 bar @ 284 l/m		039 MOTOR 64.2 Cu. cm. Disp. 165 bar @ 189 l/m		029 MOTOR 48.2 Cu. cm. Disp. 207 bar @ 189 l/m		051 MOTOR 83.6 Cu. cm. Disp. 151 bar @ 284 l/m		039 MOTOR 64.2 Cu. cm. Disp. 207 bar @ 246 l/m	
		LINE PULL (KG)	LINE SPEED (MPM)	LINE PULL (KG)	LINE SPEED (MPM)	LINE PULL (KG)	LINE SPEED (MPM)	LINE PULL (KG)	LINE SPEED (MPM)	LINE PULL (KG)	LINE SPEED (MPM)
13	1	4990	47	5036	40	4600	53	4559	68	4391	76
	2	4570	51	4614	43	4223	58	4177	74	3955	84
	3	4220	55	4255	47	3900	62	3850	80	3595	93
	4	3910	59	3950	51	3623	67	3573	86	3295	101
	5	3650	64	3682	55	3386	72	3332	92	3041	110

ROPE SIZE (mm.)	LAYER	29:1 RATIO				21:1 RATIO			
		064 MOTOR 105 Cu. cm. Disp. 175 bar @ 303 l/m		051 MOTOR 83.6 Cu. cm. Disp. 207 bar @ 284 l/m		064 MOTOR 105 Cu. cm. Disp. 207 bar @ 303 l/m		051 MOTOR 83.6 Cu. cm. Disp. 207 bar @ 284 l/m	
		LINE PULL (KG)	LINE SPEED (MPM)	LINE PULL (KG)	LINE SPEED (MPM)	LINE PULL (KG)	LINE SPEED (MPM)	LINE PULL (KG)	LINE SPEED (MPM)
13	1	4773	82	4377	96	3991	116	3141	134
	2	4373	90	4005	105	3591	129	2882	146
	3	4032	98	3695	114	3624	142	2664	158
	4	3741	105	3427	123	2991	155	2473	170
	5	3491	113	3200	132	2764	167	2309	182

**2-Speed Motor (049/024)**  
(line speeds and line pulls shown as low speed/ high speed)  
80.3 Cu. cm. Disp - low speed 40.2 Cu. cm. Disp - high speed

ROPE SIZE (mm.)	LAYER	41:1 RATIO		21:1 RATIO	
		186 bar @ 151 l/m		203 bar @ 151 l/m	
		LINE PULL (KG)	LINE SPEED (MPM)	LINE PULL (KG)	LINE SPEED (MPM)
13	1	4991/2332	31/70	2745/1282	62/139
	2	4573/2132	34/77	2518/1173	67/152
	3	4218/1968	37/83	2323/1082	73/165
	4	3914/1827	40/90	2155/1005	79/178
	5	3650/1705	42/96	2009/936	84/191