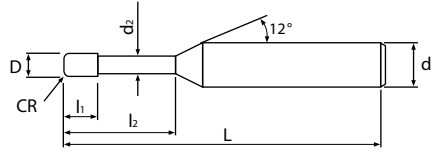


HMRR230

HY-MAX 리브 라디우스 엔드밀 2날 헬릭스30°
HY-MAX Rib Radius End Mill 2-Flute Helix30°



* 적용 피삭재 (Applicable Work Material)
◎ : 최적 (Most Suitable)
○ : 가능 (Applicable)

CARBIDE ULTRA
TISIN
2
30° Helix
CR ±0.005
CR ±0.01
D 0/-0.008
D 0/-0.015
Shank h5
Slot
Side
Face

R < 0.5 R ≥ 0.5 D < 6 D ≥ 6

P			H			M	S	N		
탄소강 Carbon Steels	합금강 Alloy Steels	프리하든강 Pre-Hardened Steels	열처리강 Hardened Steels			스테인레스강 Stainless Steels	내열합금강 Heat-resistant alloys	동 Copper	알루미늄합금 Aluminum Alloys	흑연 Graphite
S45C/S50C ~800 N/mm ²	SCM ~35HRC	NAK/HPM ~45HRC	SKD61 ~55HRC	SKD11 ~60HRC	SKH ~62HRC	○	○	○		
○	◎	◎	◎	○		○	○	○		

단위(mm)/Unit(mm)

모델번호 Model No.	인선직경 Dia of Mill	코너반경 Coner Radius	유효장 Effective Length	날장 Length of Cut	목부경 Neck Dia	전장 Overall Length	샙크경 Shank Dia	비고 Remark
	D	CR	l ₂	l ₁	d ₂	L	d	
HMRR230-002R002-005-045-S04	0.2	0.02	0.5	0.2	0.18	45	4	
HMRR230-002R002-01-045-S04	0.2	0.02	1	0.2	0.18	45	4	
HMRR230-002R005-005-045-S04	0.2	0.05	0.5	0.2	0.18	45	4	
HMRR230-002R005-01-045-S04	0.2	0.05	1	0.2	0.18	45	4	
HMRR230-003R005-01-045-S04	0.3	0.05	1	0.3	0.27	45	4	
HMRR230-003R005-015-045-S04	0.3	0.05	1.5	0.3	0.27	45	4	
HMRR230-003R005-02-045-S04	0.3	0.05	2	0.3	0.27	45	4	
HMRR230-004R005-01-045-S04	0.4	0.05	1	0.4	0.37	45	4	
HMRR230-004R005-02-045-S04	0.4	0.05	2	0.4	0.37	45	4	
HMRR230-004R005-03-045-S04	0.4	0.05	3	0.4	0.37	45	4	
HMRR230-004R005-04-045-S04	0.4	0.05	4	0.4	0.37	45	4	
HMRR230-004R01-01-045-S04	0.4	0.1	1	0.4	0.37	45	4	
HMRR230-004R01-02-045-S04	0.4	0.1	2	0.4	0.37	45	4	
HMRR230-004R01-03-045-S04	0.4	0.1	3	0.4	0.37	45	4	
HMRR230-004R01-04-045-S04	0.4	0.1	4	0.4	0.37	45	4	
HMRR230-005R005-01-045-S04	0.5	0.05	1	0.5	0.46	45	4	
HMRR230-005R005-02-045-S04	0.5	0.05	2	0.5	0.46	45	4	
HMRR230-005R005-03-045-S04	0.5	0.05	3	0.5	0.46	45	4	
HMRR230-005R005-04-045-S04	0.5	0.05	4	0.5	0.46	45	4	
HMRR230-005R005-05-045-S04	0.5	0.05	5	0.5	0.46	45	4	
HMRR230-005R005-06-045-S04	0.5	0.05	6	0.5	0.46	45	4	
HMRR230-005R01-01-045-S04	0.5	0.1	1	0.5	0.46	45	4	
HMRR230-005R01-02-045-S04	0.5	0.1	2	0.5	0.46	45	4	
HMRR230-005R01-03-045-S04	0.5	0.1	3	0.5	0.46	45	4	
HMRR230-005R01-04-045-S04	0.5	0.1	4	0.5	0.46	45	4	
HMRR230-005R01-05-045-S04	0.5	0.1	5	0.5	0.46	45	4	
HMRR230-005R01-06-045-S04	0.5	0.1	6	0.5	0.46	45	4	

HMRR230

모델번호 Model No.	인선직경 Dia of Mill	코너반경 Coner Radius	유효장 Effective Length	날장 Length of Cut	목부경 Neck Dia	전장 Overall Length	샙크경 Shank Dia	비고 Remark
	D	CR	l ₂	l ₁	d ₂	L	d	
HMRR230-006R005-01-045-S04	0.6	0.05	1	0.6	0.56	45	4	
HMRR230-006R005-02-045-S04	0.6	0.05	2	0.6	0.56	45	4	
HMRR230-006R005-03-045-S04	0.6	0.05	3	0.6	0.56	45	4	
HMRR230-006R005-04-045-S04	0.6	0.05	4	0.6	0.56	45	4	
HMRR230-006R005-06-045-S04	0.6	0.05	6	0.6	0.56	45	4	
HMRR230-006R005-08-045-S04	0.6	0.05	8	0.6	0.56	45	4	
HMRR230-006R01-01-045-S04	0.6	0.1	1	0.6	0.56	45	4	
HMRR230-006R01-02-045-S04	0.6	0.1	2	0.6	0.56	45	4	
HMRR230-006R01-03-045-S04	0.6	0.1	3	0.6	0.56	45	4	
HMRR230-006R01-04-045-S04	0.6	0.1	4	0.6	0.56	45	4	
HMRR230-006R01-06-045-S04	0.6	0.1	6	0.6	0.56	45	4	
HMRR230-006R01-08-045-S04	0.6	0.1	8	0.6	0.56	45	4	
HMRR230-007R01-02-045-S04	0.7	0.1	2	0.7	0.66	45	4	
HMRR230-007R01-04-045-S04	0.7	0.1	4	0.7	0.66	45	4	
HMRR230-007R01-06-045-S04	0.7	0.1	6	0.7	0.66	45	4	
HMRR230-007R01-08-045-S04	0.7	0.1	8	0.7	0.66	45	4	
HMRR230-008R005-02-045-S04	0.8	0.05	2	0.8	0.76	45	4	
HMRR230-008R005-04-045-S04	0.8	0.05	4	0.8	0.76	45	4	
HMRR230-008R005-06-045-S04	0.8	0.05	6	0.8	0.76	45	4	
HMRR230-008R005-08-045-S04	0.8	0.05	8	0.8	0.76	45	4	
HMRR230-008R005-10-045-S04	0.8	0.05	10	0.8	0.76	45	4	
HMRR230-008R01-02-045-S04	0.8	0.1	2	0.8	0.76	45	4	
HMRR230-008R01-04-045-S04	0.8	0.1	4	0.8	0.76	45	4	
HMRR230-008R01-06-045-S04	0.8	0.1	6	0.8	0.76	45	4	
HMRR230-008R01-08-045-S04	0.8	0.1	8	0.8	0.76	45	4	
HMRR230-008R01-10-045-S04	0.8	0.1	10	0.8	0.76	45	4	
HMRR230-008R02-02-045-S04	0.8	0.2	2	0.8	0.76	45	4	
HMRR230-008R02-04-045-S04	0.8	0.2	4	0.8	0.76	45	4	
HMRR230-008R02-06-045-S04	0.8	0.2	6	0.8	0.76	45	4	
HMRR230-008R02-08-045-S04	0.8	0.2	8	0.8	0.76	45	4	
HMRR230-008R02-10-045-S04	0.8	0.2	10	0.8	0.76	45	4	
HMRR230-010R005-025-045-S04	1	0.05	2.5	1.5	0.96	45	4	
HMRR230-010R005-04-045-S04	1	0.05	4	1.5	0.96	45	4	
HMRR230-010R005-06-045-S04	1	0.05	6	1.5	0.96	45	4	
HMRR230-010R005-08-045-S04	1	0.05	8	1.5	0.96	45	4	
HMRR230-010R005-10-045-S04	1	0.05	10	1.5	0.96	45	4	
HMRR230-010R005-12-045-S04	1	0.05	12	1.5	0.96	45	4	
HMRR230-010R005-14-050-S04	1	0.05	14	1.5	0.96	50	4	
HMRR230-010R005-16-050-S04	1	0.05	16	1.5	0.96	50	4	
HMRR230-010R01-025-045-S04	1	0.1	2.5	1.5	0.96	45	4	
HMRR230-010R01-04-045-S04	1	0.1	4	1.5	0.96	45	4	
HMRR230-010R01-06-045-S04	1	0.1	6	1.5	0.96	45	4	
HMRR230-010R01-08-045-S04	1	0.1	8	1.5	0.96	45	4	
HMRR230-010R01-10-045-S04	1	0.1	10	1.5	0.96	45	4	
HMRR230-010R01-12-045-S04	1	0.1	12	1.5	0.96	45	4	
HMRR230-010R01-14-050-S04	1	0.1	14	1.5	0.96	50	4	
HMRR230-010R01-16-050-S04	1	0.1	16	1.5	0.96	50	4	
HMRR230-010R02-025-045-S04	1	0.2	2.5	1.5	0.96	45	4	

HMRR230

볼 Ball	모델번호 Model No.	인선직경 Dia of Mill	코너반경 Coner Radius	유효장 Effective Length	날장 Length of Cut	목부경 Neck Dia	전장 Overall Length	샙크경 Shank Dia	비고 Remark
		D	CR	l ₂	l ₁	d ₂	L	d	
라디우스 Radius	HMRR230-010R02-04-045-S04	1	0.2	4	1.5	0.96	45	4	
	HMRR230-010R02-06-045-S04	1	0.2	6	1.5	0.96	45	4	
	HMRR230-010R02-08-045-S04	1	0.2	8	1.5	0.96	45	4	
	HMRR230-010R02-10-045-S04	1	0.2	10	1.5	0.96	45	4	
	HMRR230-010R02-12-045-S04	1	0.2	12	1.5	0.96	45	4	
	HMRR230-010R02-14-050-S04	1	0.2	14	1.5	0.96	50	4	
	HMRR230-010R02-16-050-S04	1	0.2	16	1.5	0.96	50	4	
	HMRR230-010R03-025-045-S04	1	0.3	2.5	1.5	0.96	45	4	
	HMRR230-010R03-04-045-S04	1	0.3	4	1.5	0.96	45	4	
	HMRR230-010R03-06-045-S04	1	0.3	6	1.5	0.96	45	4	
	HMRR230-010R03-08-045-S04	1	0.3	8	1.5	0.96	45	4	
	HMRR230-010R03-10-045-S04	1	0.3	10	1.5	0.96	45	4	
	HMRR230-010R03-12-045-S04	1	0.3	12	1.5	0.96	45	4	
	HMRR230-010R03-14-050-S04	1	0.3	14	1.5	0.96	50	4	
	HMRR230-010R03-16-050-S04	1	0.3	16	1.5	0.96	50	4	
	HMRR230-012R01-04-045-S04	1.2	0.1	4	1.8	1.15	45	4	
	HMRR230-012R01-06-045-S04	1.2	0.1	6	1.8	1.15	45	4	
	HMRR230-012R01-08-045-S04	1.2	0.1	8	1.8	1.15	45	4	
	HMRR230-012R01-10-045-S04	1.2	0.1	10	1.8	1.15	45	4	
	HMRR230-012R01-12-045-S04	1.2	0.1	12	1.8	1.15	45	4	
	HMRR230-012R01-14-050-S04	1.2	0.1	14	1.8	1.15	50	4	
	HMRR230-012R01-16-050-S04	1.2	0.1	16	1.8	1.15	50	4	
	HMRR230-012R02-04-045-S04	1.2	0.2	4	1.8	1.15	45	4	
	HMRR230-012R02-06-045-S04	1.2	0.2	6	1.8	1.15	45	4	
	HMRR230-012R02-08-045-S04	1.2	0.2	8	1.8	1.15	45	4	
	HMRR230-012R02-10-045-S04	1.2	0.2	10	1.8	1.15	45	4	
	HMRR230-012R02-12-045-S04	1.2	0.2	12	1.8	1.15	45	4	
	HMRR230-012R02-14-050-S04	1.2	0.2	14	1.8	1.15	50	4	
	HMRR230-012R02-16-050-S04	1.2	0.2	16	1.8	1.15	50	4	
NEW	HMRR230-012R03-04-045-S04	1.2	0.3	4	1.8	1.15	45	4	
NEW	HMRR230-012R03-06-045-S04	1.2	0.3	6	1.8	1.15	45	4	
NEW	HMRR230-012R03-08-045-S04	1.2	0.3	8	1.8	1.15	45	4	
NEW	HMRR230-012R03-10-045-S04	1.2	0.3	10	1.8	1.15	45	4	
NEW	HMRR230-012R03-12-045-S04	1.2	0.3	12	1.8	1.15	45	4	
NEW	HMRR230-012R03-14-050-S04	1.2	0.3	14	1.8	1.15	50	4	
NEW	HMRR230-012R03-16-050-S04	1.2	0.3	16	1.8	1.15	50	4	
	HMRR230-015R01-04-045-S04	1.5	0.1	4	2.3	1.45	45	4	
	HMRR230-015R01-06-045-S04	1.5	0.1	6	2.3	1.45	45	4	
	HMRR230-015R01-08-045-S04	1.5	0.1	8	2.3	1.45	45	4	
	HMRR230-015R01-10-045-S04	1.5	0.1	10	2.3	1.45	45	4	
	HMRR230-015R01-12-045-S04	1.5	0.1	12	2.3	1.45	45	4	
	HMRR230-015R01-14-050-S04	1.5	0.1	14	2.3	1.45	50	4	
	HMRR230-015R01-16-050-S04	1.5	0.1	16	2.3	1.45	50	4	
	HMRR230-015R01-20-060-S04	1.5	0.1	20	2.3	1.45	60	4	
	HMRR230-015R02-04-045-S04	1.5	0.2	4	2.3	1.45	45	4	
	HMRR230-015R02-06-045-S04	1.5	0.2	6	2.3	1.45	45	4	
	HMRR230-015R02-08-045-S04	1.5	0.2	8	2.3	1.45	45	4	
	HMRR230-015R02-10-045-S04	1.5	0.2	10	2.3	1.45	45	4	

HMRR230

볼 Ball	모델번호 Model No.	인선직경 Dia of Mill	코너반경 Coner Radius	유효장 Effective Length	날장 Length of Cut	목부경 Neck Dia	전장 Overall Length	샙크경 Shank Dia	비고 Remark
		D	CR	l ₂	l ₁	d ₂	L	d	
라디우스 Radius	HMRR230-015R02-12-045-S04	1.5	0.2	12	2.3	1.45	45	4	
	HMRR230-015R02-14-050-S04	1.5	0.2	14	2.3	1.45	50	4	
	HMRR230-015R02-16-050-S04	1.5	0.2	16	2.3	1.45	50	4	
	HMRR230-015R02-20-060-S04	1.5	0.2	20	2.3	1.45	60	4	
	HMRR230-015R03-04-045-S04	1.5	0.3	4	2.3	1.45	45	4	
	HMRR230-015R03-06-045-S04	1.5	0.3	6	2.3	1.45	45	4	
	HMRR230-015R03-08-045-S04	1.5	0.3	8	2.3	1.45	45	4	
	HMRR230-015R03-10-045-S04	1.5	0.3	10	2.3	1.45	45	4	
	HMRR230-015R03-12-045-S04	1.5	0.3	12	2.3	1.45	45	4	
	HMRR230-015R03-14-050-S04	1.5	0.3	14	2.3	1.45	50	4	
	HMRR230-015R03-16-050-S04	1.5	0.3	16	2.3	1.45	50	4	
	HMRR230-015R03-20-060-S04	1.5	0.3	20	2.3	1.45	60	4	
	HMRR230-015R05-04-045-S04	1.5	0.5	4	2.3	1.45	45	4	
	HMRR230-015R05-06-045-S04	1.5	0.5	6	2.3	1.45	45	4	
	HMRR230-015R05-08-045-S04	1.5	0.5	8	2.3	1.45	45	4	
	HMRR230-015R05-10-045-S04	1.5	0.5	10	2.3	1.45	45	4	
	HMRR230-015R05-12-045-S04	1.5	0.5	12	2.3	1.45	45	4	
	HMRR230-015R05-14-050-S04	1.5	0.5	14	2.3	1.45	50	4	
	HMRR230-015R05-16-050-S04	1.5	0.5	16	2.3	1.45	50	4	
	HMRR230-015R05-20-060-S04	1.5	0.5	20	2.3	1.45	60	4	
	HMRR230-020R01-06-045-S04	2	0.1	6	3	1.9	45	4	
	HMRR230-020R01-08-045-S04	2	0.1	8	3	1.9	45	4	
	HMRR230-020R01-10-045-S04	2	0.1	10	3	1.9	45	4	
	HMRR230-020R01-12-045-S04	2	0.1	12	3	1.9	45	4	
	HMRR230-020R01-14-050-S04	2	0.1	14	3	1.9	50	4	
	HMRR230-020R01-16-050-S04	2	0.1	16	3	1.9	50	4	
	HMRR230-020R01-20-060-S04	2	0.1	20	3	1.9	60	4	
	HMRR230-020R02-06-045-S04	2	0.2	6	3	1.9	45	4	
	HMRR230-020R02-08-045-S04	2	0.2	8	3	1.9	45	4	
	HMRR230-020R02-10-045-S04	2	0.2	10	3	1.9	45	4	
	HMRR230-020R02-12-045-S04	2	0.2	12	3	1.9	45	4	
	HMRR230-020R02-14-050-S04	2	0.2	14	3	1.9	50	4	
	HMRR230-020R02-16-050-S04	2	0.2	16	3	1.9	50	4	
	HMRR230-020R02-20-060-S04	2	0.2	20	3	1.9	60	4	
	HMRR230-020R03-06-045-S04	2	0.3	6	3	1.9	45	4	
	HMRR230-020R03-08-045-S04	2	0.3	8	3	1.9	45	4	
	HMRR230-020R03-10-045-S04	2	0.3	10	3	1.9	45	4	
	HMRR230-020R03-12-045-S04	2	0.3	12	3	1.9	45	4	
	HMRR230-020R03-14-050-S04	2	0.3	14	3	1.9	50	4	
	HMRR230-020R03-16-050-S04	2	0.3	16	3	1.9	50	4	
	HMRR230-020R03-20-060-S04	2	0.3	20	3	1.9	60	4	
	HMRR230-020R05-06-045-S04	2	0.5	6	3	1.9	45	4	
	HMRR230-020R05-08-045-S04	2	0.5	8	3	1.9	45	4	
	HMRR230-020R05-10-045-S04	2	0.5	10	3	1.9	45	4	
	HMRR230-020R05-12-045-S04	2	0.5	12	3	1.9	45	4	
	HMRR230-020R05-14-050-S04	2	0.5	14	3	1.9	50	4	
	HMRR230-020R05-16-050-S04	2	0.5	16	3	1.9	50	4	
	HMRR230-020R05-20-060-S04	2	0.5	20	3	1.9	60	4	

HMRR230

모델번호 Model No.	인선직경 Dia of Mill	코너반경 Coner Radius	유효장 Effective Length	날장 Length of Cut	목부경 Neck Dia	전장 Overall Length	샙크경 Shank Dia	비고 Remark
	D	CR	l ₂	l ₁	d ₂	L	d	
HMRR230-025R02-10-045-S04	2.5	0.2	10	4	2.35	45	4	
HMRR230-025R02-16-050-S04	2.5	0.2	16	4	2.35	50	4	
HMRR230-025R02-20-060-S04	2.5	0.2	20	4	2.35	60	4	
HMRR230-025R05-10-045-S04	2.5	0.5	10	4	2.35	45	4	
HMRR230-025R05-16-050-S04	2.5	0.5	16	4	2.35	50	4	
HMRR230-025R05-20-060-S04	2.5	0.5	20	4	2.35	60	4	
HMRR230-030R02-10-050-S06	3	0.2	10	4.5	2.85	50	6	
HMRR230-030R02-12-050-S06	3	0.2	12	4.5	2.85	50	6	
HMRR230-030R02-16-060-S06	3	0.2	16	4.5	2.85	60	6	
HMRR230-030R02-20-060-S06	3	0.2	20	4.5	2.85	60	6	
HMRR230-030R02-25-070-S06	3	0.2	25	4.5	2.85	70	6	
HMRR230-030R02-30-070-S06	3	0.2	30	4.5	2.85	70	6	
HMRR230-030R02-35-080-S06	3	0.2	35	4.5	2.85	80	6	
HMRR230-030R03-10-050-S06	3	0.3	10	4.5	2.85	50	6	
HMRR230-030R03-12-050-S06	3	0.3	12	4.5	2.85	50	6	
HMRR230-030R03-16-060-S06	3	0.3	16	4.5	2.85	60	6	
HMRR230-030R03-20-060-S06	3	0.3	20	4.5	2.85	60	6	
HMRR230-030R03-25-070-S06	3	0.3	25	4.5	2.85	70	6	
HMRR230-030R03-30-070-S06	3	0.3	30	4.5	2.85	70	6	
HMRR230-030R03-35-080-S06	3	0.3	35	4.5	2.85	80	6	
HMRR230-030R05-10-050-S06	3	0.5	10	4.5	2.85	50	6	
HMRR230-030R05-12-050-S06	3	0.5	12	4.5	2.85	50	6	
HMRR230-030R05-16-060-S06	3	0.5	16	4.5	2.85	60	6	
HMRR230-030R05-20-060-S06	3	0.5	20	4.5	2.85	60	6	
HMRR230-030R05-25-070-S06	3	0.5	25	4.5	2.85	70	6	
HMRR230-030R05-30-070-S06	3	0.5	30	4.5	2.85	70	6	
HMRR230-030R05-35-080-S06	3	0.5	35	4.5	2.85	80	6	
HMRR230-030R10-10-050-S06	3	1	10	4.5	2.85	50	6	
HMRR230-030R10-12-050-S06	3	1	12	4.5	2.85	50	6	
HMRR230-030R10-16-060-S06	3	1	16	4.5	2.85	60	6	
HMRR230-030R10-20-060-S06	3	1	20	4.5	2.85	60	6	
HMRR230-030R10-25-070-S06	3	1	25	4.5	2.85	70	6	
HMRR230-030R10-30-070-S06	3	1	30	4.5	2.85	70	6	
HMRR230-030R10-35-080-S06	3	1	35	4.5	2.85	80	6	
HMRR230-040R02-12-050-S06	4	0.2	12	6	3.85	50	6	
HMRR230-040R02-16-060-S06	4	0.2	16	6	3.85	60	6	
HMRR230-040R02-20-060-S06	4	0.2	20	6	3.85	60	6	
HMRR230-040R02-25-070-S06	4	0.2	25	6	3.85	70	6	
HMRR230-040R02-30-070-S06	4	0.2	30	6	3.85	70	6	
HMRR230-040R02-35-080-S06	4	0.2	35	6	3.85	80	6	
HMRR230-040R03-12-050-S06	4	0.3	12	6	3.85	50	6	
HMRR230-040R03-16-060-S06	4	0.3	16	6	3.85	60	6	
HMRR230-040R03-20-060-S06	4	0.3	20	6	3.85	60	6	
HMRR230-040R03-25-070-S06	4	0.3	25	6	3.85	70	6	
HMRR230-040R03-30-070-S06	4	0.3	30	6	3.85	70	6	
HMRR230-040R03-35-080-S06	4	0.3	35	6	3.85	80	6	
HMRR230-040R05-12-050-S06	4	0.5	12	6	3.85	50	6	
HMRR230-040R05-16-060-S06	4	0.5	16	6	3.85	60	6	

HMRR230

모델번호 Model No.	인선직경 Dia of Mill	코너반경 Coner Radius	유효장 Effective Length	날장 Length of Cut	목부경 Neck Dia	전장 Overall Length	샙크경 Shank Dia	비고 Remark
	D	CR	l ₂	l ₁	d ₂	L	d	
HMRR230-040R05-20-060-S06	4	0.5	20	6	3.85	60	6	
HMRR230-040R05-25-070-S06	4	0.5	25	6	3.85	70	6	
HMRR230-040R05-30-070-S06	4	0.5	30	6	3.85	70	6	
HMRR230-040R05-35-080-S06	4	0.5	35	6	3.85	80	6	
HMRR230-040R10-12-050-S06	4	1	12	6	3.85	50	6	
HMRR230-040R10-16-060-S06	4	1	16	6	3.85	60	6	
HMRR230-040R10-20-060-S06	4	1	20	6	3.85	60	6	
HMRR230-040R10-25-070-S06	4	1	25	6	3.85	70	6	
HMRR230-040R10-30-070-S06	4	1	30	6	3.85	70	6	
HMRR230-040R10-35-080-S06	4	1	35	6	3.85	80	6	
HMRR230-050R02-20-060-S06	5	0.2	20	7.5	4.8	60	6	
HMRR230-050R03-20-060-S06	5	0.3	20	7.5	4.8	60	6	
HMRR230-050R05-20-060-S06	5	0.5	20	7.5	4.8	60	6	
HMRR230-050R10-20-060-S06	5	1	20	7.5	4.8	60	6	
HMRR230-060R02-20-060-S06	6	0.2	20	9	5.7	60	6	
HMRR230-060R02-30-090-S06	6	0.2	30	9	5.7	90	6	
HMRR230-060R03-20-060-S06	6	0.3	20	9	5.7	60	6	
HMRR230-060R03-30-090-S06	6	0.3	30	9	5.7	90	6	
HMRR230-060R05-20-060-S06	6	0.5	20	9	5.7	60	6	
HMRR230-060R05-30-090-S06	6	0.5	30	9	5.7	90	6	
HMRR230-060R10-20-060-S06	6	1	20	9	5.7	60	6	
HMRR230-060R10-30-090-S06	6	1	30	9	5.7	90	6	
HMRR230-080R02-24-065-S08	8	0.2	24	12	7.7	65	8	
HMRR230-080R02-40-090-S08	8	0.2	40	12	7.7	90	8	
HMRR230-080R03-24-065-S08	8	0.3	24	12	7.7	65	8	
HMRR230-080R03-40-090-S08	8	0.3	40	12	7.7	90	8	
HMRR230-080R05-24-065-S08	8	0.5	24	12	7.7	65	8	
HMRR230-080R05-40-090-S08	8	0.5	40	12	7.7	90	8	
HMRR230-080R10-24-065-S08	8	1	24	12	7.7	65	8	
HMRR230-080R10-40-090-S08	8	1	40	12	7.7	90	8	
HMRR230-100R02-30-070-S10	10	0.2	30	15	9.7	70	10	
HMRR230-100R02-50-100-S10	10	0.2	50	15	9.7	100	10	
HMRR230-100R03-30-070-S10	10	0.3	30	15	9.7	70	10	
HMRR230-100R03-50-100-S10	10	0.3	50	15	9.7	100	10	
HMRR230-100R05-30-070-S10	10	0.5	30	15	9.7	70	10	
HMRR230-100R05-50-100-S10	10	0.5	50	15	9.7	100	10	
HMRR230-100R10-30-070-S10	10	1	30	15	9.7	70	10	
HMRR230-100R10-50-100-S10	10	1	50	15	9.7	100	10	
HMRR230-120R02-30-080-S12	12	0.2	30	18	11.7	80	12	
HMRR230-120R02-55-100-S12	12	0.2	55	18	11.7	100	12	
HMRR230-120R05-30-080-S12	12	0.5	30	18	11.7	80	12	
HMRR230-120R05-55-100-S12	12	0.5	55	18	11.7	100	12	
HMRR230-120R10-30-080-S12	12	1	30	18	11.7	80	12	
HMRR230-120R10-55-100-S12	12	1	55	18	11.7	100	12	